

GED Calling

Practice Tests

Practice for the GED® test

One full-length GED®-style practice test · Mathematical Reasoning · Reasoning Through Language Arts · Science · Social Studies

177 questions + 1 extended response · answer keys with explanations · formula sheet · essay rubric and model answer

Richard Sim ©

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How to use this workbook

This workbook contains one complete GED®-style practice test in all four subjects, written as original practice material. It matches the interactive GED Calling app, so students can practice on screen or on paper.

Subject	Time	Questions	Notes
Mathematical Reasoning	115 min	46	Part 1 no calculator; Part 2 calculator; formula sheet
Reasoning Through Language Arts	150 min	46 + essay	45-minute extended response
Science	90 min	40	Calculator allowed
Social Studies	70 min	45	Calculator allowed

- Time each subject with a clock. Take the subjects in any order, one at a time.
- Mark answers on the answer sheets near the back of the book. Fill-in-the-blank answers are numbers.
- For drop-down items, choose the option that correctly completes the sentence. In passages, drop-down spots are shown as **[15]**.
- Check your answers with the answer key. Every question has a short explanation.
- Score the extended response with the rubric and checklist, then compare it with the model answer.
- Convert your percent of points to an estimated score with the table on the last page.

Score guide. 145 = passing range · 165+ = college-ready range. Scores in this app are practice estimates only. They are not official GED® scores and do not predict your result on the real test.

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Formula sheet

You may use this sheet for the whole Mathematical Reasoning test. Use 3.14 for π unless a question says otherwise.

Area

Rectangle	$A = lw$
Parallelogram	$A = bh$
Triangle	$A = \frac{1}{2}bh$
Trapezoid	$A = \frac{1}{2}h(b_1 + b_2)$
Circle	$A = \pi r^2$
Circumference	$C = 2\pi r$ or $C = \pi d$

Surface area (SA) and volume (V)

Rectangular prism	$SA = 2lw + 2lh + 2wh$ $V = lwh$
Right prism	$SA = ph + 2B$ $V = Bh$
Cylinder	$SA = 2\pi rh + 2\pi r^2$ $V = \pi r^2 h$
Pyramid	$SA = \frac{1}{2}ps + B$ $V = \frac{1}{3}Bh$
Cone	$SA = \pi rs + \pi r^2$ $V = \frac{1}{3}\pi r^2 h$
Sphere	$SA = 4\pi r^2$ $V = (4/3)\pi r^3$
Key	p = perimeter of base, B = area of base, s = slant height, $\pi \approx 3.14$

Algebra

Slope of a line	$m = (y_2 - y_1) \div (x_2 - x_1)$
Slope-intercept form	$y = mx + b$
Point-slope form	$y - y_1 = m(x - x_1)$
Standard form	$Ax + By = C$
Quadratic formula	$x = (-b \pm \sqrt{(b^2 - 4ac)}) \div 2a$, for $ax^2 + bx + c = 0$
Pythagorean theorem	$a^2 + b^2 = c^2$
Simple interest	$I = prt$ (p = principal, r = rate, t = time)
Distance	$d = rt$ (r = rate, t = time)
Total cost	total cost = (number of units) × (price per unit)

Data

Mean	sum of the values ÷ number of values
Median	middle value of an ordered data set (or the mean of the two middle values)
Range	greatest value − least value

Mathematical Reasoning

46 questions · 115 minutes · Content areas: Quantitative Problem Solving, Algebraic Problem Solving

Part 1 · No calculator

Answer questions 1–5 without a calculator. You may use the formula sheet. When you move on to Part 2, you cannot return to Part 1.

1 Which fraction is equal to 3/4 − 1/6?

(A) 5/12
(B) 1/2
(C) 7/12
(D) 2/5

2 Evaluate the expression.
$2^3 + 4 \times 3 - 6 \div 2$

Answer: _____

3 Select the symbol that makes the statement true.
−3/5 [Select...] −0.7

(A) <
(B) >
(C) =

4 Which whole number is between √50 and √70?

(A) 6
(B) 7
(C) 8
(D) 9

5 Evaluate the expression.
$(-4)(5) + 18 \div (-3)$

Answer: _____

Part 2 · Calculator allowed

You may use the calculator and the formula sheet for questions 6–46. For fill-in-the-blank questions, write a number. You may write a fraction like 3/4 or a decimal.

6 A jacket regularly costs $84. It is on sale for 25% off. A sales tax of 6% is added to the sale price. What is the total cost of the jacket?

(A) $63.00
(B) $66.78
(C) $68.04
(D) $89.04

7 A car travels 162 miles on 6 gallons of gas. At the same rate, how many miles can it travel on 10 gallons?

Answer: _____ miles

8 Five employees worked these numbers of overtime hours last month: 8, 15, 9, 22, 16. What is the mean (average) number of overtime hours?

(A) 13
(B) 14
(C) 15
(D) 17.5

9 A rectangular garden is 18 feet long and 12.5 feet wide. What is the area of the garden in square feet?

Answer: _____ sq ft

10 A cylindrical can has a radius of 3 inches and a height of 10 inches. Using 3.14 for π, what is the volume of the can?

(A) 94.2 cubic inches
(B) 188.4 cubic inches
(C) 282.6 cubic inches
(D) 1,130.4 cubic inches

11 What is the slope of the line that passes through the points (−2, 5) and (4, −7)?

Answer: _____

12 Solve for x.
$3x - 7 = 2x + 5$

(A) $x = -12$
(B) $x = -2$
(C) $x = 2.4$
(D) $x = 12$

13 Which expression is equivalent to $(2x + 3)(x - 4)$?

(A) $2x^2 - 5x - 12$
(B) $2x^2 - 11x - 12$
(C) $2x^2 + 5x - 12$
(D) $2x^2 - 12$

14 Which is the solution to the inequality $-4x + 9 > 21$?

(A) $x > -7.5$
(B) $x > -3$
(C) $x < 3$
(D) $x < -3$

15 The function f is defined as $f(x) = x^2 - 3x + 2$. What is the value of $f(-2)$?

Answer: _____

16 A 13-foot ladder leans against a wall. The bottom of the ladder is 5 feet from the base of the wall. How high up the wall does the ladder reach, in feet?

Answer: _____ feet

17 Luis puts $2,400 in an account that pays 3.5% simple interest per year. How much interest will he earn in 4 years?

(A) $84
(B) $336
(C) $2,736
(D) $3,360

18 A bag holds 5 red, 7 blue and 8 green marbles. One marble is chosen at random. What is the probability that it is blue?

(A) 7/20
(B) 7/13
(C) 1/3
(D) 13/20

19 What is the product of (3.2×10^{5}) and (2.5×10^{-2})?

(A) 5.7×10^{3}
(B) 8×10^{3}
(C) 8×10^{7}
(D) 8×10^{-10}

20 Three stores sell the same laundry soap:
Store A: 24 ounces for $4.08
Store B: 32 ounces for $5.12
Store C: 18 ounces for $3.24
Which store has the lowest price per ounce?

(A) Store A
(B) Store B
(C) Store C
(D) All three prices per ounce are the same.

21 A line has a slope of 3 and crosses the y-axis at (0, −4). Select the equation of the line.
y = Select...

(A) $3x + 4$
(B) $3x - 4$
(C) $-4x + 3$
(D) $4x - 3$

22 Solve the system of equations.
$x + y = 14$
$x - y = 4$

(A) (5, 9)
(B) (7, 7)
(C) (10, 4)
(D) (9, 5)

23 Which is the factored form of $x^2 - x - 20$?

(A) $(x - 5)(x + 4)$

(B) $(x + 5)(x - 4)$

(C) $(x - 10)(x + 2)$

(D) $(x - 20)(x + 1)$

24 What are the solutions of $x^2 + 2x - 15 = 0$?

(A) $x = -3$ and $x = 5$

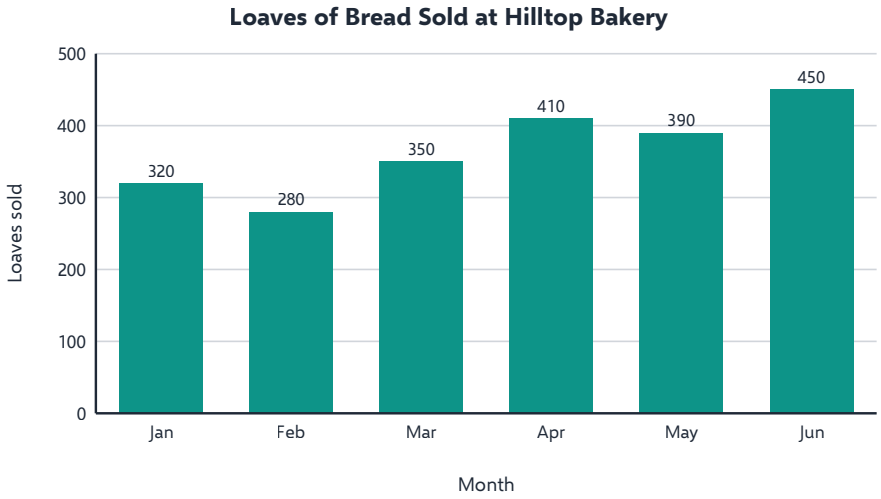
(B) $x = -3$ and $x = -5$

(C) $x = 3$ and $x = 5$

(D) $x = 3$ and $x = -5$

Questions 25–26 refer to the following.

Use the graph to answer the questions.



25 By what percent did the number of loaves sold increase from February to March?

Answer: _____ %

26 What is the range of the monthly sales shown in the graph?

(A) 130 loaves

(B) 170 loaves

(C) 370 loaves

(D) 450 loaves

27 A round tabletop has a diameter of 14 centimeters. Using 3.14 for π, what is its circumference?

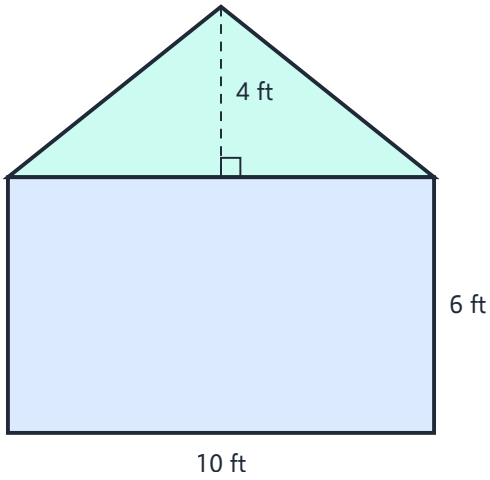
(A) 21.98 cm

(B) 43.96 cm

(C) 153.86 cm

(D) 615.44 cm

Use the figure to answer the question.



28 The figure shows the shape of the front wall of a shed: a rectangle with a triangle on top. What is the total area of the wall, in square feet?

Answer: _____ sq ft

29 A rectangular box is 5 inches long, 4 inches wide and 3 inches high. What is the total surface area of the box?

(A) 47 square inches
(B) 60 square inches
(C) 94 square inches
(D) 120 square inches

30 The perimeter of a rectangle is given by $P = 2l + 2w$. Which equation is solved for w?

(A) $w = P - 2l$
(B) $w = 2(P - l)$
(C) $w = P \div 2 - 2l$
(D) $w = (P - 2l) \div 2$

31 A plumber charges a $65 visit fee plus $48 for each hour of work. Which equation gives the total cost, C, in dollars, for h hours of work?

(A) $C = 48h + 65$
(B) $C = 65h + 48$
(C) $C = 113h$
(D) $C = 48(h + 65)$

32 Using the same plumber, what is the total cost, in dollars, for 3.5 hours of work?

Answer: _____ dollars

33 Which expression is equivalent to $(x^4 \cdot x^3) \div x^2$?

(A) x^{14}

(B) x^6

(C) x^9

(D) x^5

34 The table shows values of x and y. Which equation fits the table?

x	0	1	2	3
y	5	8	11	14

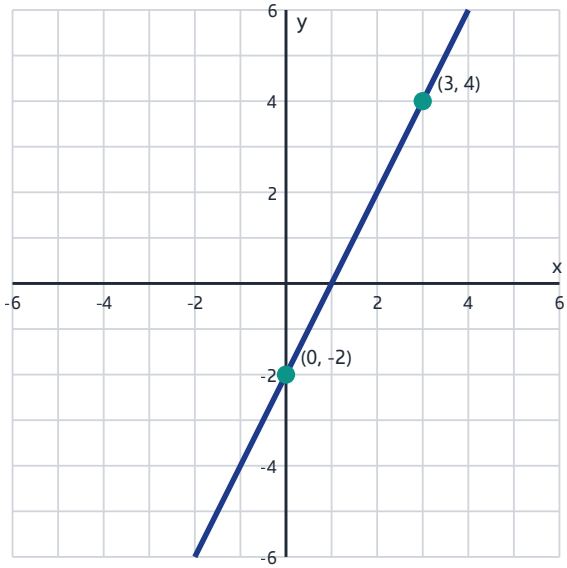
(A) $y = 3x + 5$

(B) $y = 5x + 3$

(C) $y = x + 5$

(D) $y = 8x$

Use the graph to answer the question.



35 What is the slope of the line shown on the coordinate plane?

Answer: _____

36 18 is what percent of 72?

Answer: _____ %

37 A recipe uses 3 cups of flour for every 2 cups of sugar. How many cups of sugar are needed with 7.5 cups of flour?

(A) 4.5 cups

(B) 5 cups

(C) 6.5 cups

(D) 11.25 cups

38 What is the value of $|-8| - |3 - 10|$?

(A) -15

(B) -1

(C) 1

(D) 15

39 A coin is flipped and a standard six-sided number cube is rolled. What is the probability of getting heads and a number greater than 4?

(A) 1/12

(B) 1/6

(C) 1/3

(D) 5/6

40 A storage cube has edges that are 2.5 feet long. What is its volume?

(A) 6.25 cubic feet

(B) 7.5 cubic feet

(C) 15.625 cubic feet

(D) 37.5 cubic feet

41 Eight students earned these test scores: 78, 85, 92, 85, 70, 88, 85, 95. What is the mean score? Enter your answer as a decimal.

Answer: _____

42 Maria has $50 to spend on notebooks that cost $3.75 each. Let n be the number of notebooks she buys. Select the symbol that completes the inequality.

$3.75n$ Select... 50

(A) $<$

(B) $\leq$

(C) $>$

(D) $\geq$

43 What is the greatest number of notebooks Maria can buy?

Answer: _____ notebooks

44 The function $f(x) = (x - 3)^2 - 4$ is graphed on a coordinate plane. What is the minimum value of the function?

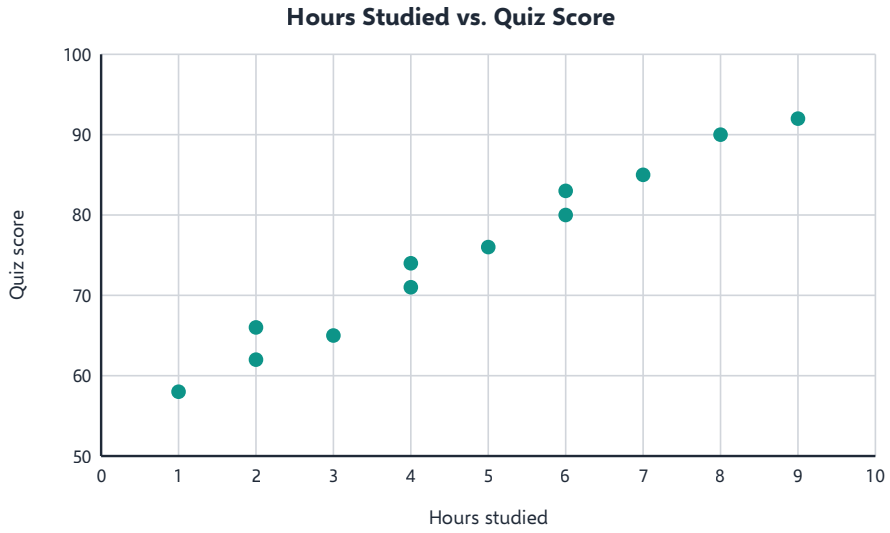
(A) -4

(B) -3

(C) 3

(D) 4

Use the scatter plot to answer the question.



45 Which statement best describes the relationship shown in the scatter plot?

(A) As hours studied increase, quiz scores tend to decrease.

(B) Every student who studied more than 5 hours scored 100.

(C) There is no relationship between hours studied and quiz scores.

(D) As hours studied increase, quiz scores tend to increase.

46 A town has 2,000 residents. Its population grows by 5% each year. About how many residents will the town have after 3 years?

(A) 2,030

(B) 2,300

(C) 2,315

(D) 2,600

Reasoning Through Language Arts

46 questions + 1 extended response · 150 minutes · Content areas: Reading for Meaning, Identifying and Creating Arguments, Grammar and Language, Extended Response

Part 1 · Reading and language

> Read each passage and answer the questions. For drop-down items, choose the option that correctly completes each numbered sentence in the passage.

Questions 1–8 refer to the following.

INFORMATIONAL ARTICLE

More Than Books: How Small-Town Libraries Are Reinventing Themselves

1 When the Millbrook Public Library opened in 1962, its mission was simple: lend books and keep the building quiet. Sixty years later, on a Tuesday evening, the loudest room in town is the library's back meeting room, where twelve adults are learning to repair small engines. Down the hall, a teenager is printing a plastic part for a broken bike light, and a retired nurse is helping a new resident fill out a job application online.

2 Millbrook is not unusual. Across the country, libraries in small towns are expanding what they offer. Many now lend items that have nothing to do with reading: power tools, sewing machines, telescopes, cake pans, even fishing poles. Others offer Wi-Fi hot spots that patrons can take home, a service that matters in rural areas where home internet can be slow, expensive or unavailable.

3 "People sometimes ask me whether libraries are still necessary now that everything is online," says Dana Ortiz, Millbrook's head librarian. "My answer is that 'everything' is online only if you can get online. For a lot of our neighbors, we are the bridge." Ortiz points to the library's sign-in records: last year, visitors used the public computers more than 9,000 times, and nearly a third of those sessions involved job searches, government forms or health insurance applications.

4 The changes have not come without debate. When the library proposed turning part of its fiction section into a "maker space" with a 3-D printer and sewing tables, some longtime patrons objected. They worried that the library would lose its identity as a place for books. The library board held three public meetings before voting to go ahead, and it kept the fiction collection the same size by moving older, rarely borrowed titles into a storage room from which patrons can request them.

5 That compromise seems to have worked. In the year after the maker space opened, book circulation actually rose by 6 percent. Ortiz believes the two are connected. "Someone comes in to use the sewing machine, waits for a class to start, and wanders over to the new-books shelf," she says. "Every reason to walk through our door is a reason to find a book."

6 Funding remains the biggest challenge. Like many rural libraries, Millbrook relies mainly on local property taxes, and its budget has barely grown in a decade. Much of the new equipment was paid for by a state grant and donations from local businesses. Ortiz admits she does not know whether that support will last. Still, she is optimistic. "A library is not a warehouse for books," she says. "It is a promise that a town makes to itself: whatever you want to learn, you can start here."

1 Which statement best expresses the central idea of the article?

(A) Small-town libraries should stop lending books and focus on technology.

(B) Small-town libraries are expanding their services to meet the changing needs of their communities.

(C) Most people no longer need public libraries because information is online.

(D) The Millbrook library board ignored the concerns of longtime patrons.

2 Why does the author begin the article by describing a Tuesday evening at the library (paragraph 1)?

(A) To introduce Dana Ortiz as the main character of a story

(B) To explain why the library is too noisy for reading

(C) To argue that the library should close earlier in the evening

(D) To show how different the library's activities are today from its original mission

3 Based on paragraph 3, what can you infer about many Millbrook residents?

(A) They do not have reliable internet access at home.

(B) They prefer printed books to e-books.

(C) They have stopped looking for jobs.

(D) They work at the library as volunteers.

4 What does Ortiz mean when she says, "For a lot of our neighbors, we are the bridge" (paragraph 3)?

(A) The library is located next to a river crossing.

(B) The library brings together people from two different towns.

(C) The library pays for residents' internet service at home.

(D) The library helps connect people to online services they could not otherwise reach.

5 How did the library board respond to patrons who worried about the maker space?

(A) It canceled the maker space.

(B) It moved the maker space to another building.

(C) It kept the fiction collection the same size by moving older titles to storage that patrons can request from.

(D) It replaced the fiction section with e-books.

6 Which detail best supports Ortiz's claim that "every reason to walk through our door is a reason to find a book"?

(A) The library opened in 1962.

(B) Visitors used the public computers more than 9,000 times.

(C) The library relies mainly on local property taxes.

(D) Book circulation rose by 6 percent in the year after the maker space opened.

7 What is the main purpose of paragraph 6?

(A) To describe a challenge that could limit the library's new services

(B) To list the businesses that donated to the library

(C) To explain how property taxes are calculated

(D) To show that Ortiz plans to leave her job

8 Which phrase best describes the author's overall attitude toward the changes at small-town libraries?

(A) Strongly critical

(B) Amused and mocking

(C) Uninterested and neutral

(D) Generally approving, while noting real challenges

Questions 9–16 refer to the following.

LITERARY TEXT

The Ledger

1 The bell over the door of Kessler Hardware still rang a half step flat, the way it had when June was nine and her grandfather let her sort screws into the little wooden drawers behind the counter. Now she was thirty-four, and the store had been closed for six weeks. The bell sounded louder in the empty room, as if it had been waiting for someone to complain to.

2 Dust had settled on everything that did not move, which was everything. June set her keys on the counter beside a coffee can of pencils, each one sharpened with a pocketknife until it was almost too short to hold. Her grandfather had never thrown a pencil away. "A pencil isn't done," he used to say, "until it can't write your name."

3 Her brother, Neil, had already found a buyer for the building. A chain store wanted the corner lot, and the offer was more than fair. Neil had sent her the paperwork with a sticky note: Just sign where the arrows are. It's what Grandpa would want. June had read the note four times. She was not sure Neil had ever known what Grandpa wanted. She was not sure she had either.

4 She walked the aisles slowly. Hinges. Furnace filters. Garden hoses coiled like sleeping snakes. At the end of aisle three, she found the old wooden ladder that slid along a rail so you could reach the top shelves. As a child, she had begged to ride it, and once, when no customers were watching, her grandfather had pushed her the length of the wall while she laughed so hard she could not breathe. She put her hand on the rail. It was smooth from fifty years of hands.

5 Behind the counter, under the register, was a ledger she had never seen. She opened it expecting numbers. Instead she found names, hundreds of them, each followed by a short note in her grandfather's careful print. Mrs. Abbott: furnace part, pay when she can. Delgado boys: lawnmower blades, will work it off Saturday. Pastor Hill: paint for the shelter, no charge. Some names had a line through them and the word PAID. Many did not.

6 June sat down on the stool where her grandfather had sat for half a century. She thought about the chain store with its bright aisles and its scanner guns and its return policy printed on every receipt. It would sell hinges and hoses, probably for less. It would not keep a ledger like this one.

7 Her phone buzzed. Neil again: Did you sign?

8 She looked at the bell above the door, at the dust, at the ladder waiting on its rail. Then she picked up one of the short pencils from the coffee can, found that it could still write, and on a fresh page of the ledger she printed her own name.

9 Which word best describes June's feelings in paragraphs 1 and 2?

(A) Furious
(B) Bored
(C) Nostalgic
(D) Terrified

10 What does the grandfather's saying, "A pencil isn't done until it can't write your name," suggest about him?

(A) He was careless with money.
(B) He believed in using things fully and not wasting them.
(C) He wanted June to practice her handwriting.
(D) He did not trust his customers.

11 In paragraph 3, what is revealed by the sentence "She was not sure Neil had ever known what Grandpa wanted"?

(A) June believes Neil is lying about the buyer's offer.
(B) June doubts that her brother truly understood their grandfather.
(C) June thinks Neil should keep the store himself.
(D) June has already decided to sign the papers.

12 The phrase "Garden hoses coiled like sleeping snakes" (paragraph 4) is an example of which device?

(A) Simile
(B) Hyperbole
(C) Onomatopoeia
(D) Personification

13 What does the ledger in paragraph 5 reveal about June's grandfather?

(A) He kept careful records so that he could take customers to court.
(B) He was planning to sell the store to a chain.
(C) He often helped neighbors who could not pay right away, and sometimes did not charge at all.
(D) He did not know most of his customers by name.

14 How does paragraph 6 contribute to the story?

(A) It describes the chain store's plans to hire June.
(B) It contrasts the chain store's efficiency with the personal care her grandfather showed customers.
(C) It explains why the hardware store closed.
(D) It shows that June prefers modern stores.

15 What does June's final action most likely suggest?

(A) She has decided to carry on her grandfather's work instead of selling the store.
(B) She is going to sign the sale papers.
(C) She is writing a note to Neil.
(D) She is adding up how much money customers still owe.

16 Which statement best expresses a theme of the story?

(A) Old buildings are dangerous and should be torn down.

(B) Chain stores always offer better service than small shops.

(C) Brothers and sisters rarely agree about money.

(D) A family business can carry values that matter more than profit.

Questions 17–23 refer to the following.

WORKPLACE MEMO

Changes to Employee Parking

TO: All Riverside Medical Group employees

FROM: Tomas Reyes, Facilities Manager

DATE: March 3

SUBJECT: Changes to employee parking

Beginning Monday, April 7, employee parking will move from the north lot to the new garage on Elm Street. The north lot **[17]** reserved for patients and visitors. This change is one of the ways we are making our clinics easier for patients to reach.

Every employee **[18]** a new parking permit to enter the garage. Permits are free. To get your permit, bring your employee badge to the Facilities Office on the first floor of Building B. **[19]**

The garage has 400 spaces, **[20]** it has plenty of room for both day-shift and night-shift staff. A free shuttle will run between the garage and the main entrance every ten minutes. **[21]** prefer to walk can use the covered walkway on Elm Street, which takes about five minutes.

Please stop using the north lot after Friday, April 4. After that date, any employee vehicle **[22]** in the north lot may be towed.

If you have questions, please contact Gloria Kim or **[23]** at extension 4410.

17 Drop-down [17]: choose the option that correctly completes the sentence.

(A) was being

(B) will have been

(C) will be

(D) had been

18 Drop-down [18]: choose the option that correctly completes the sentence.

(A) needs

(B) need

(C) are needing

(D) have needed

19 Drop-down [19]: choose the option that correctly completes the sentence.

(A) Needing also your cars license plate number.

(B) Also needing your car's license plate number.

(C) Your car's license plate number, which you will also need.

(D) You will also need your car's license plate number.

20 Drop-down [20]: choose the option that correctly completes the sentence.

(A) but
(B) so
(C) because
(D) or

21 Drop-down [21]: choose the option that correctly completes the sentence.

(A) Employee's who
(B) Employees whom
(C) Employees who
(D) Employees, who,

22 Drop-down [22]: choose the option that correctly completes the sentence.

(A) founded
(B) finding
(C) that found
(D) found

23 Drop-down [23]: choose the option that correctly completes the sentence.

(A) me
(B) I
(C) myself
(D) me's

Part 2 · Extended response

Read both passages, then write your response on the three lined writing pages. Allow 45 minutes to plan, write and proofread.

Extended Response: Red-Light Cameras in Riverton

The two passages present different views about Riverton's red-light camera program.

In your response, analyze both passages to decide which position is better supported. Use specific, relevant evidence from both passages to support your answer.

Write your response on the lined writing pages. You have up to 45 minutes to plan, write and edit your response.

PASSAGE 1

Red-Light Cameras Save Lives

By Dr. Karen Liu, Riverton city traffic safety engineer

1 Every year, drivers who run red lights cause crashes at Riverton's busiest intersections. These are not minor fender benders. When a car enters an intersection against a red light, it often strikes another vehicle from the side, and side-impact crashes are among the most likely to cause serious injury.

2 In 2022, the city installed red-light cameras at six of its most dangerous intersections as a two-year pilot program. The results were clear. According to the Riverton Police Department's crash reports, side-impact crashes at those six intersections fell from 48 in the two years before the cameras to 27 in the two years after, a drop of about 44 percent. During the same period, side-impact crashes at similar intersections without cameras fell by only 5 percent.

3 Critics often claim that cameras cause more rear-end crashes because drivers stop suddenly. Our data do show a small increase in rear-end crashes at the six intersections, from 31 to 35. However, low-speed rear-end crashes are far less likely to cause serious injuries than side-impact crashes. Trading a few minor collisions for many fewer serious ones is a good bargain for public safety.

4 The cameras also free up police officers. Instead of waiting at intersections for violations, officers can respond to emergencies and investigate crimes. Every ticket is reviewed by a trained officer before it is mailed, so drivers are not fined because of a camera error.

5 Some people say the cameras are only about money. In fact, under city law, fine revenue above the cost of running the program must go to a fund for sidewalk and crosswalk improvements.

6 The evidence shows that red-light cameras make Riverton's streets safer. The city council should make the program permanent and expand it to ten more intersections.

PASSAGE 2

Cameras Are the Wrong Answer

A letter by Ray Dunham, owner of a Riverton auto repair shop

I have lived in Riverton for thirty years, and I have never seen the city so eager to take money from its own residents. Red-light cameras are nothing more than a tax disguised as safety.

Last spring, I got a ticket in the mail for $150. I had entered the intersection on a yellow light that turned red while I was in the middle of it. Three of my customers have told me the same thing happened to them. If the cameras were really about safety, why would they punish careful drivers like us?

Everyone knows that cameras make people slam on their brakes. I see the results in my shop every week: bumpers and trunks crushed in rear-end crashes. I fixed more rear-end damage last year than in any year I can remember, and I am sure the cameras are to blame.

There is also the question of privacy. Do we really want the government taking pictures of us everywhere we go? Today it is red lights. Tomorrow it could be cameras on every street corner, tracking where we shop and whom we visit.

Supporters say the money goes to sidewalks. But once a city gets used to a new source of money, it never gives it up. We should not trust promises like that.

There are better ways to make intersections safe. The city could make yellow lights last longer, or it could put more police officers on the streets, the way it used to. Those solutions treat drivers like citizens, not like targets.

The city council should end the camera program before it grows any larger.

Part 3 · Reading and language

Read each passage and answer the questions. For drop-down items, choose the option that correctly completes each numbered sentence in the passage.

Questions 24–31 refer to the following.

PERSONAL ESSAY

Behind the Wheel at Forty-Two

1 I learned to drive at forty-two, in a parking lot behind a closed furniture store, with my seventeen-year-old daughter in the passenger seat. For most of my life I had not needed a car. I grew up in a city with buses on every corner, and later I married a man who loved to drive. Then my husband's job moved him to night shifts, the bus route to my work was cut, and suddenly the thing I had avoided for twenty-five years was standing in front of me like a locked door.

2 My daughter, Rosa, had gotten her license the summer before. She was a patient teacher, which surprised both of us. "Hands at nine and three, Mom," she said on the first day. "Look where you want to go, not at what you're afraid of hitting." I laughed at that, because it sounded like advice from a fortune cookie. Later I realized it was the most useful thing anyone told me.

3 The first week was humbling. I braked so hard that the seat belt locked. I signaled left and turned right. Once, I drove the length of the lot at eight miles per hour while a man walking his dog passed us on the sidewalk. Rosa did not laugh, at least not out loud. She just said, "Again," and I went again.

4 What I had not expected was how much of driving happened in my head. My hands learned the wheel in a few days. My nerves took much longer. Every time a truck came up behind me, my heart raced, and I gripped the wheel until my knuckles went white. Rosa noticed. "The truck isn't your problem," she told me. "The road in front of you is your problem." Slowly, I learned to trust the mirrors and to stop treating every car as an emergency.

5 I failed my first road test. I rolled through a stop sign that I had seen perfectly well, simply because I was concentrating so hard on not making mistakes. The examiner was kind but firm. I rode home in silence while Rosa drove, and I thought about quitting.

6 Instead, I scheduled the next test for three weeks later. I passed with two points to spare. When the examiner handed me the paper, I did not cheer. I sat in the car for a moment and felt something I had not felt in years: the quiet pride of being a beginner who had kept going.

7 People sometimes ask whether I wish I had learned sooner. In some ways, of course, I do. But I am not sure I would have learned the same lessons at seventeen. At forty-two, I had to admit that I was afraid, accept help from my own child and fail in front of a stranger. Those things were harder than parallel parking, and they were worth the wait.

24 In paragraph 1, the author says that driving was "standing in front of me like a locked door." What does this comparison suggest?

(A) She had lost her keys at the furniture store.

(B) She was locked out of her house.

(C) She was afraid of her husband's car.

(D) Driving had become an obstacle she could no longer avoid.

25 Why does the author mention that she laughed at Rosa's advice (paragraph 2)?

(A) To show that Rosa was trying to be funny

(B) To show that she did not respect her daughter

(C) To show that she first underestimated advice that later proved valuable

(D) To show that the lesson was not serious

26 Which detail from paragraph 3 best shows how overly cautious the author was during the first week?

(A) "I braked so hard that the seat belt locked."

(B) "I signaled left and turned right."

(C) "I drove the length of the lot at eight miles per hour while a man walking his dog passed us."

(D) "She just said, 'Again,' and I went again."

27 According to paragraph 4, which part of learning to drive was hardest for the author?

(A) Controlling her nervousness

(B) Learning to steer

(C) Reading road signs

(D) Paying for lessons

28 Why did the author fail her first road test?

(A) She did not see the stop sign.

(B) She was concentrating so hard on avoiding mistakes that she rolled through a stop sign.

(C) The examiner was unfair to her.

(D) Rosa distracted her during the test.

29 As used in paragraph 6, what does "with two points to spare" mean?

(A) She failed by two points.

(B) She earned a perfect score.

(C) She passed, but only by a small margin.

(D) She had to take two more tests.

30 Which statement about Rosa is best supported by the essay?

(A) She was embarrassed to teach her mother.

(B) She stayed calm and encouraged her mother to keep practicing.

(C) She wanted her mother to take lessons from a driving school.

(D) She did not think her mother would ever pass.

31 Which statement best expresses the central idea of the essay?

(A) Learning a new skill as an adult can teach lessons about courage and humility.

(B) Teenagers are better drivers than adults.

(C) Parking lots are the safest place to learn to drive.

(D) People who live in cities do not need cars.

Questions 32–39 refer to the following.

ARGUMENT (OPINION ARTICLE)

Riverton Should Bring Back the Summer Night Market

By Alicia Monroe, Riverton City Council member

1 From 2015 to 2019, the Summer Night Market turned three blocks of Front Street into the busiest place in Riverton every Friday evening from June through August. Local farmers sold peaches and sweet corn, food trucks lined the curb, and families listened to free music until ten o'clock. When the city canceled the market in 2020, it was a sensible decision at the time. It is now time to bring it back.

2 The strongest reason is economic. According to a 2019 survey by the Riverton Downtown Business Association, 41 of the 52 shops on Front Street reported higher Friday sales during market weeks than on other Fridays of the year. Several owners said market nights were their best evenings of the summer. The market also gave small vendors, many of whom cannot afford a storefront, a low-cost way to reach thousands of customers.

3 The market was good for more than business. City records show that the market drew an average of about 3,500 visitors each Friday. For many residents, it was the only event where neighbors from every part of town gathered in one place. At a time when people spend more and more of their free hours alone in front of screens, a public event that brings people together has real value.

4 Some residents have raised concerns about noise and traffic. These concerns deserve a serious answer, and the proposal I will present to the council includes one. Music would end at 9:00 p.m. instead of 10:00 p.m., and the city would open the Ash Street lot for free parking, with a shuttle to Front Street. The city's own traffic study from 2018 found that closing Front Street added an average of only four minutes to drivers' trips through downtown.

5 Others argue that the market costs the city too much. In 2019, the city spent about $38,000 on police, cleanup and portable restrooms for the season. However, vendor fees covered $29,000 of that amount, and the extra sales tax from busier downtown shops very likely made up the rest.

6 Finally, there is a simple reason to bring the market back: people want it. I have received more than 300 emails and letters asking for its return. Everyone I talk to at the grocery store says the same thing. Riverton has changed since 2019, but its residents' love of a warm summer night on Front Street has not.

7 I urge my fellow council members to vote yes on the Night Market proposal at our May 12 meeting.

32 What is the author's main claim?

(A) The city should hire more police officers for Front Street.

(B) Local farmers should open stores downtown.

(C) Front Street should be closed to cars permanently.

(D) The city of Riverton should bring back the Summer Night Market.

33 Which evidence does the author use to support the claim that the market helped downtown businesses?

(A) The market drew about 3,500 visitors each Friday.

(B) 41 of 52 Front Street shops reported higher Friday sales during market weeks.

(C) The city spent about $38,000 on the market in 2019.

(D) The author received more than 300 emails and letters.

34 How does the author respond to concerns about noise and traffic in paragraph 4?

(A) She says the concerns are not important.

(B) She admits the concerns and proposes specific changes, supported by a traffic study.

(C) She suggests moving the market to another town.

(D) She blames residents for creating traffic.

35 Which statement from the passage is an opinion rather than a fact?

(A) "City records show that the market drew an average of about 3,500 visitors each Friday."

(B) "In 2019, the city spent about $38,000 on police, cleanup and portable restrooms."

(C) "A public event that brings people together has real value."

(D) "Closing Front Street added an average of only four minutes to drivers' trips."

36 Which claim in paragraph 5 is supported by the least evidence?

(A) The city spent about $38,000 on the market in 2019.

(B) Vendor fees covered $29,000 of the cost.

(C) Some people argue that the market costs too much.

(D) Extra sales tax from busier shops very likely made up the rest of the cost.

37 How does the sentence "Everyone I talk to at the grocery store says the same thing" (paragraph 6) affect the argument?

(A) It strengthens the argument by adding statistics.

(B) It strengthens the argument because grocery stores are popular.

(C) It weakens the argument because it relies on a personal impression rather than measurable evidence.

(D) It has no effect because it repeats the main claim.

38 How is the passage mainly organized?

(A) As a claim followed by reasons, responses to opposing views, and a call to action

(B) In time order, from 2015 to the present

(C) As a comparison of two different markets

(D) As a list of problems with no solution

39 According to paragraph 5, how much of the 2019 market cost was NOT covered by vendor fees?

(A) $9,000

(B) $29,000

(C) $38,000

(D) $67,000

Questions 40–46 refer to the following.

LETTER

Request to Repair the Oak Hill Park Path

To: Ms. Priya Patel, Director, Riverton Parks Department

From: Darnell Brooks, President, Oak Hill Neighborhood Association

Date: August 14

Dear Ms. Patel:

I am writing on behalf of the Oak Hill Neighborhood Association **[40]** that the city repair the walking path in Oak Hill Park. Over the past two years, tree roots **[41]** large sections of the path, and several of the cracks are now more than two inches wide. Last month, Mr. Lyle Foster, a retired teacher who walks in the park every morning, tripped on one of these cracks and broke **[42]** wrist.

The path is used by hundreds of people each week **[43]** parents with strollers, students walking to Lincoln High School and people who use wheelchairs. Our association has already collected 412 signatures from residents who support the repair. **[44]**, a local landscaping company has offered to remove the problem roots at no cost if the city repaves the path.

We **[45]** grateful if the repair could be completed before the fall, when leaves cover the cracks and make them harder to see. I have enclosed the petition and photos of the damaged areas, and I **[46]** to discussing this request with you.

Sincerely,
Darnell Brooks

40 Drop-down [40]: choose the option that correctly completes the sentence.

(A) requesting
(B) to request
(C) for requesting
(D) to requesting

41 Drop-down [41]: choose the option that correctly completes the sentence.

(A) has lifted
(B) lifting
(C) is lifting
(D) have lifted

42 Drop-down [42]: choose the option that correctly completes the sentence.

(A) his
(B) its
(C) he's
(D) him

43 Drop-down [43]: choose the option that correctly completes the sentence.

(A) , and
(B) ;
(C) :
(D) .

44 Drop-down [44]: choose the option that correctly completes the sentence.

(A) Instead
(B) In addition
(C) On the other hand
(D) As a result

45 Drop-down [45]: choose the option that correctly completes the sentence.

(A) would be
(B) will have been
(C) would of been
(D) are being

46 Drop-down [46]: choose the option that correctly completes the sentence.

(A) looks forward
(B) looking forward
(C) look forward
(D) am look forward

Science

40 questions · 90 minutes · Content areas: Life Science, Physical Science, Earth and Space Science

Science

> Read each question and any chart, table or diagram carefully. You may use the calculator. For fill-in-the-blank questions, write a number.

1 Which cell structure releases energy from food molecules through cellular respiration?

(A) Nucleus
(B) Ribosome
(C) Cell wall
(D) Mitochondrion

2 During photosynthesis, plants use light energy to change carbon dioxide and water into glucose. Which gas is released as a product?

(A) Oxygen
(B) Nitrogen
(C) Carbon dioxide
(D) Methane

Questions 3–4 refer to the following.

Punnett square for the cross Tt × Tt

	T	t
T	TT	Tt
t	Tt	tt

3 In pea plants, the allele for tall stems (T) is dominant over the allele for short stems (t). Two plants with the genotype Tt are crossed. What percent of the offspring are expected to be tall?

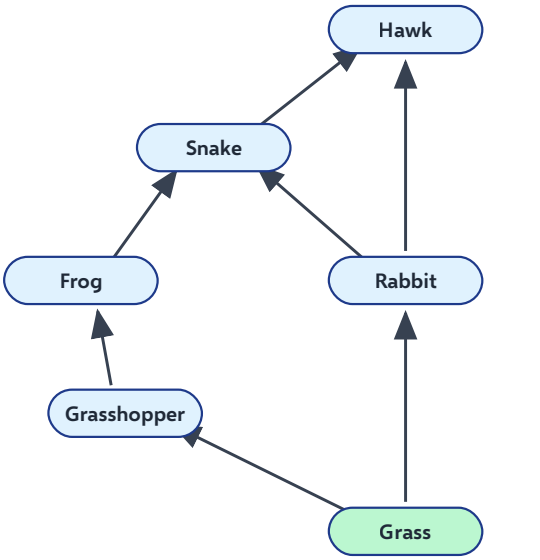
Answer: _____ %

4 From the same cross, what is the probability that an offspring has the genotype tt?

(A) 0
(B) 1/4
(C) 1/2
(D) 3/4

Questions 5–6 refer to the following.

Study the food web.



Arrows point from the organism eaten to the organism that eats it.

5 Which organism in the food web is a producer?

(A) Hawk
(B) Grasshopper
(C) Rabbit
(D) Grass

6 Suppose a disease greatly reduces the number of frogs. What is the most likely short-term effect on the grasshopper population?

(A) It will increase because fewer frogs are eating grasshoppers.
(B) It will decrease because grasshoppers eat frogs.
(C) It will stay exactly the same.
(D) It will decrease because hawks will eat more grasshoppers.

Questions 7–8 refer to the following.

A student measured the rate of a reaction controlled by an enzyme found in the human body at different temperatures.

Temperature (°C)	10	20	30	37	45	55
Reaction rate (units)	12	25	41	48	30	6

7 Based on the data, the enzyme works fastest at about Select….

(A) 10 °C
(B) 20 °C
(C) 37 °C
(D) 55 °C

8 Which statement best explains why the reaction rate is very low at 55 °C?

(A) The enzyme was used up by 45 °C.

(B) Cold temperatures slow all reactions.

(C) Enzymes work only at room temperature.

(D) High temperature changed the enzyme's shape so it no longer works well.

9 A student wants to test whether the amount of fertilizer affects how tall bean plants grow. She gives four groups of plants 0 g, 5 g, 10 g and 15 g of fertilizer each week. All plants get the same water, light and soil. What is the independent variable?

(A) The height of the plants

(B) The amount of water

(C) The amount of fertilizer

(D) The type of soil

10 A population of beetles lives on dark brown soil. Some beetles are green and some are brown. Birds can see the green beetles more easily and eat more of them. What is the most likely change in the population after many generations?

(A) Green beetles will become more common.

(B) Brown beetles will become more common.

(C) All beetles will turn green to escape birds.

(D) The number of green and brown beetles will stay equal.

11 After a meal, the level of glucose (sugar) in the blood rises. The pancreas releases insulin, which helps cells take in glucose, and the blood glucose level returns to normal. This process is an example of

(A) homeostasis

(B) photosynthesis

(C) mutation

(D) digestion of protein

12 A patient has a cold caused by a virus. Why would a doctor most likely NOT prescribe an antibiotic?

(A) Antibiotics only work on fungi.

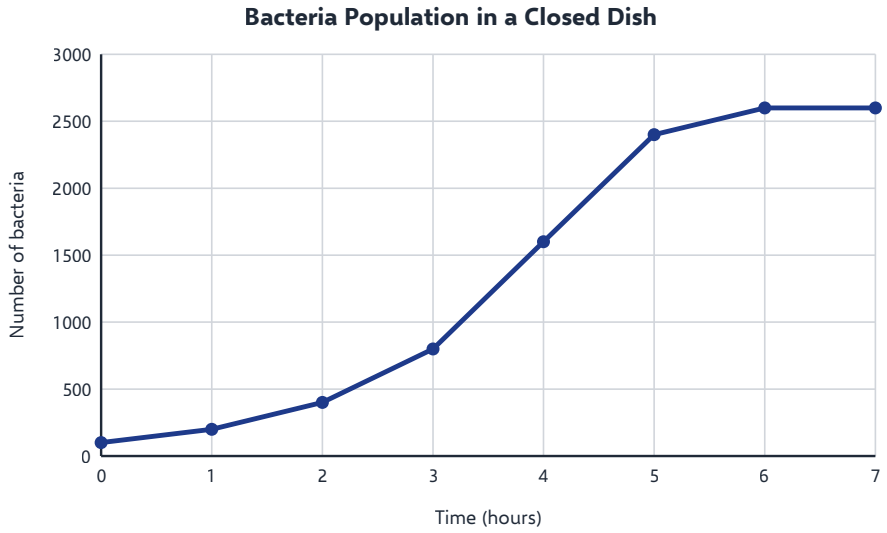
(B) Antibiotics make viruses grow faster.

(C) Viruses are too large for antibiotics.

(D) Antibiotics kill bacteria but do not work against viruses.

Questions 13–14 refer to the following.

The graph shows the number of bacteria in a closed dish with a fixed amount of food.



13 According to the graph, how many bacteria were in the dish at 3 hours?

Answer: _____ bacteria

14 Which is the best explanation for why the population stops increasing after about 6 hours?

(A) The bacteria became too old to reproduce.
(B) The temperature of the dish dropped to freezing.
(C) The dish ran low on nutrients and space, so the population reached its limit.
(D) Bacteria can reproduce for only 6 hours.

15 In a DNA molecule, which base always pairs with adenine (A)?

(A) Thymine (T)
(B) Guanine (G)
(C) Cytosine (C)
(D) Uracil (U)

16 Which process returns carbon dioxide to the atmosphere as part of the carbon cycle?

(A) Photosynthesis
(B) Evaporation of water
(C) Formation of ice
(D) Cellular respiration

17 A runner completes a 400-meter lap in 80 seconds. What is her average speed in meters per second?

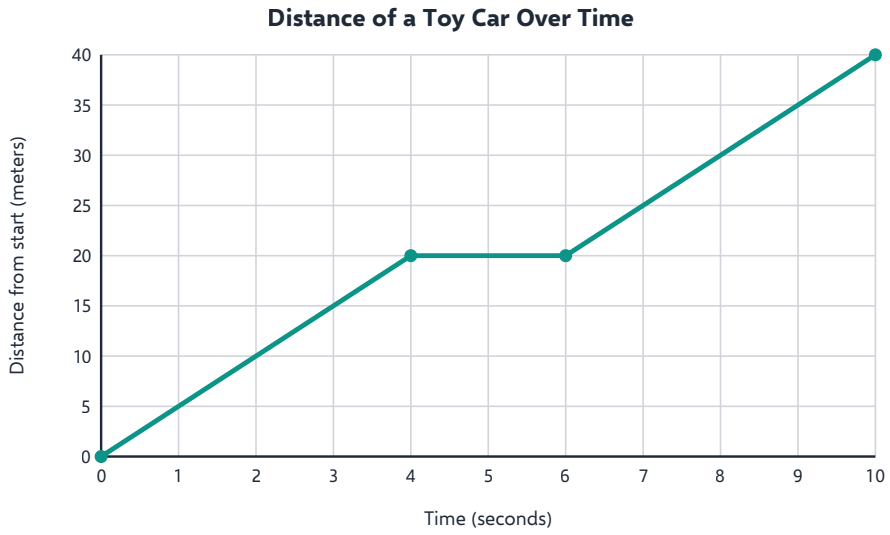
Answer: _____ m/s

18 What net force is needed to accelerate a 1,200-kilogram car at 3 meters per second squared? (Use F = ma.)

(A) 400 N
(B) 1,203 N
(C) 3,600 N
(D) 36,000 N

Questions 19–20 refer to the following.

The graph shows the motion of a toy car.



19 During which time interval was the toy car stopped?

(A) 0 to 4 seconds
(B) 4 to 6 seconds
(C) 6 to 10 seconds
(D) The car never stopped.

20 What was the car's average speed during the first 4 seconds, in meters per second?

Answer: _____ m/s

21 A roller coaster car is pulled to the top of the first hill and then released. At which point does the car have the most gravitational potential energy?

(A) At the bottom of the first hill
(B) Halfway down the first hill
(C) At the top of the first hill
(D) While it is moving fastest

22 A small stone has a mass of 60 grams and a volume of 24 cubic centimeters. What is its density in grams per cubic centimeter?

Answer: _____ g/cm³

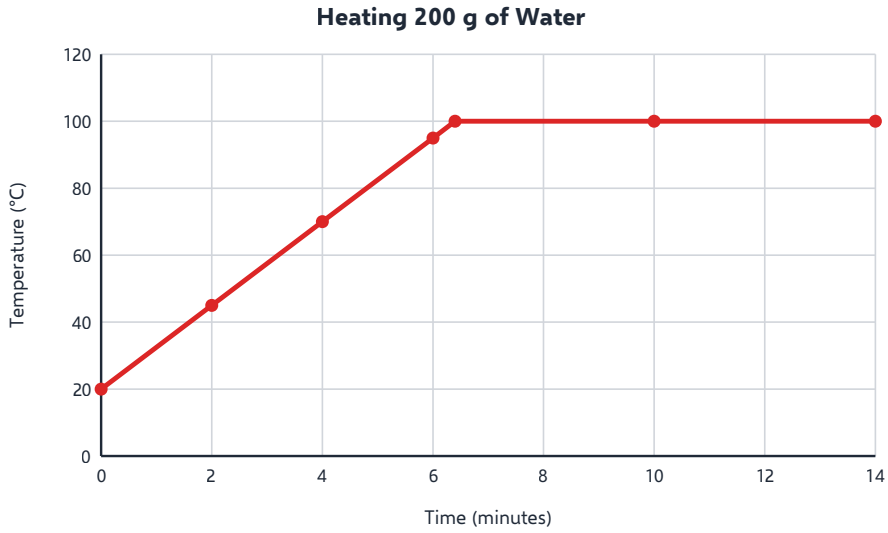
23 Which of these is a chemical change?

(A) An iron gate rusting
(B) Ice melting into water
(C) Sugar dissolving in tea
(D) Paper being cut into pieces

24 In a sealed container, 12 grams of substance A react completely with 4 grams of substance B. Nothing enters or leaves the container. What is the total mass of the products, in grams?

Answer: _____ g

Use the graph to answer the question.



25 The graph shows the temperature of water being heated at a steady rate. Why does the temperature stay at 100 °C from about 6 to 14 minutes?

(A) The burner stopped heating the water.

(B) Water cannot absorb any more energy.

(C) The energy is being used to change liquid water into steam instead of raising the temperature.

(D) The thermometer is broken.

26 A sound wave travels at 340 meters per second and has a frequency of 170 hertz. What is its wavelength in meters? (Use wave speed = frequency × wavelength.)

Answer: _____ m

27 A metal spoon is left in a pot of hot soup. Soon the handle of the spoon feels hot. Which type of heat transfer explains this?

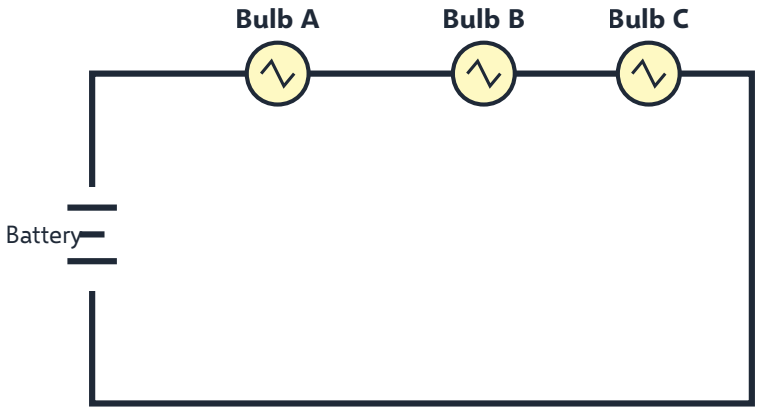
(A) Conduction

(B) Convection

(C) Radiation

(D) Insulation

Study the circuit diagram.



28 In the circuit shown, bulb B burns out. What happens to bulbs A and C?

(A) They get brighter.

(B) They go out, because the single path for the current is broken.

(C) Only bulb A stays lit.

(D) Nothing changes.

29 Sodium (Na) and potassium (K) are in the same column (group) of the periodic table. What does this tell you about them?

(A) They have the same mass.

(B) They have the same number of protons.

(C) They are both gases at room temperature.

(D) They have similar chemical properties.

Questions 30–31 refer to the following.

The table shows how much table sugar dissolves in 100 grams of water at different temperatures.

Water temperature (°C)	0	20	40	60	80	100
Sugar dissolved (g per 100 g water)	179	204	238	287	362	487

30 Which conclusion is best supported by the data?

(A) Sugar dissolves less as water gets hotter.

(B) More sugar dissolves in water as the temperature increases.

(C) Temperature has no effect on how much sugar dissolves.

(D) Sugar does not dissolve in cold water.

31 How many more grams of sugar dissolve in 100 g of water at 80 °C than at 20 °C?

Answer: _____ g

32 A worker pushes a cart with a force of 50 newtons for a distance of 6 meters in the direction of the push. How much work does the worker do? (Use W = F × d.)

(A) 8.3 J
(B) 56 J
(C) 300 J
(D) 3,000 J

33 What is the main cause of Earth's seasons?

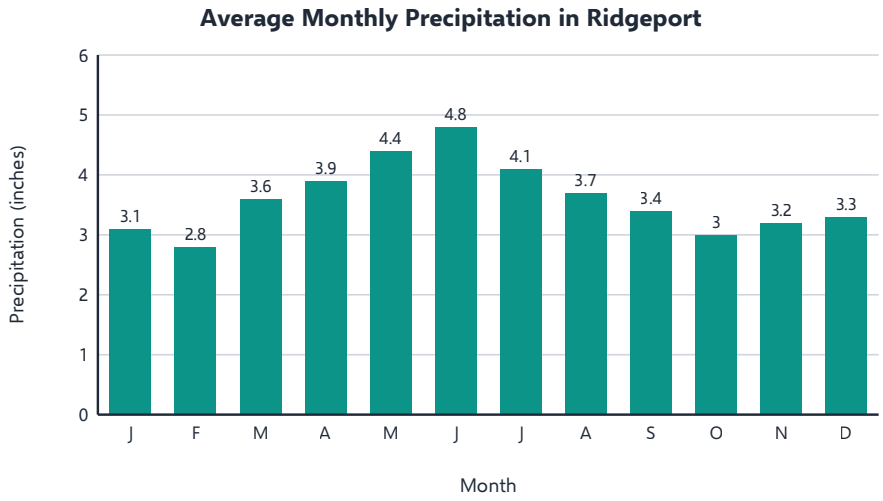
(A) Earth's distance from the sun changes greatly during the year.
(B) Earth's axis is tilted, so the angle and length of sunlight change during the year.
(C) The sun gives off more energy in summer.
(D) The moon blocks sunlight in winter.

34 Layers of sand and mud settle at the bottom of a lake. Over millions of years, they are pressed and cemented together. What type of rock forms?

(A) Igneous
(B) Sedimentary
(C) Metamorphic
(D) Volcanic glass

Questions 35–36 refer to the following.

The graph shows average monthly precipitation in Ridgeport, a fictional city.



35 Which month has the greatest average precipitation in Ridgeport?

(A) June
(B) May
(C) April
(D) July

36 What is the total average precipitation for June, July and August, in inches?

Answer: _____ inches

37 Most of the world's earthquakes and volcanoes occur in long, narrow belts. What is the best explanation for this pattern?

(A) They occur where there are the most people.

(B) They occur only near the equator, where it is hottest.

(C) They occur where tectonic plates meet and move against each other.

(D) They are caused by ocean tides.

38 What is the main cause of ocean tides on Earth?

(A) Wind blowing across the ocean

(B) Heat from Earth's core

(C) Earthquakes on the ocean floor

(D) The gravitational pull of the moon

39 Which energy source is renewable?

(A) Wind

(B) Natural gas

(C) Coal

(D) Oil

40 Carbon dioxide and methane in the atmosphere are called greenhouse gases. Why?

(A) They block all sunlight from reaching Earth.

(B) They cause the seasons.

(C) They create the ozone layer.

(D) They absorb heat given off by Earth's surface and keep the planet warmer.

Social Studies

45 questions · 70 minutes · Content areas: Civics and Government, U.S. History, Economics, Geography and the World

Social Studies

Read each question and any source, map, chart or graph carefully. You may use the calculator. For fill-in-the-blank questions, write a number.

Questions 1–2 refer to the following.

Preamble to the U.S. Constitution (1787)

> We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.

Public domain. Original spelling is kept.

1 The phrase "We the People" best reflects which principle of American government?

(A) Judicial review: courts can strike down laws

(B) Federalism: power is divided between the nation and the states

(C) Popular sovereignty: the government's power comes from the people

(D) Monarchy: one ruler holds all power

2 Which goal in the Preamble is most closely related to having an army and navy?

(A) "establish Justice"

(B) "insure domestic Tranquility"

(C) "promote the general Welfare"

(D) "provide for the common defence"

Questions 3–4 refer to the following.

First Amendment to the U.S. Constitution (1791)

> Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.

Public domain.

3 Which action is most directly protected by the First Amendment?

(A) A group holds a peaceful protest outside city hall.

(B) A person refuses to let soldiers stay in his home.

(C) A defendant asks for a jury trial.

(D) A citizen owns a hunting rifle.

4 Which freedom is NOT named in this amendment?

(A) Freedom of religion
(B) Freedom of the press
(C) The right to petition the government
(D) The right to bear arms

5 The President vetoes a bill passed by Congress. What can Congress do if it still wants the bill to become law?

(A) Ask the Supreme Court to sign it
(B) Override the veto with a two-thirds vote in both the House and the Senate
(C) Pass it again with a simple majority in the House only
(D) Nothing; a veto is final

6 In Marbury v. Madison (1803), the Supreme Court established the power of judicial review. What does this power allow courts to do?

(A) Write new laws
(B) Remove the President from office
(C) Declare laws or government actions unconstitutional
(D) Collect federal taxes

7 Select the branch that completes the statement.
The Select... branch interprets laws and decides whether they follow the Constitution.

(A) legislative
(B) executive
(C) judicial

8 Under federalism, some powers belong to the states. Which power is held by state governments rather than the national government?

(A) Printing money
(B) Declaring war
(C) Making treaties with other countries
(D) Issuing driver's licenses

9 At the Constitutional Convention, large and small states disagreed about representation in Congress. They agreed to a Senate with two members from each state and a House of Representatives based on population. This agreement is known as

(A) the Emancipation Proclamation
(B) the Bill of Rights
(C) the Great Compromise
(D) the Missouri Compromise

10 Select the number that completes the statement.
A U.S. senator is elected to a term of Select... years.

(A) 2
(B) 4
(C) 6
(D) 8

11 How can an amendment be added to the U.S. Constitution using the most common method?

(A) Two-thirds of both houses of Congress propose it, and three-fourths of the states ratify it.

(B) The President signs it into law.

(C) A majority of voters approve it in a national election.

(D) The Supreme Court votes to add it.

12 How is the number of electoral votes for each state in a presidential election determined?

(A) Every state has the same number.

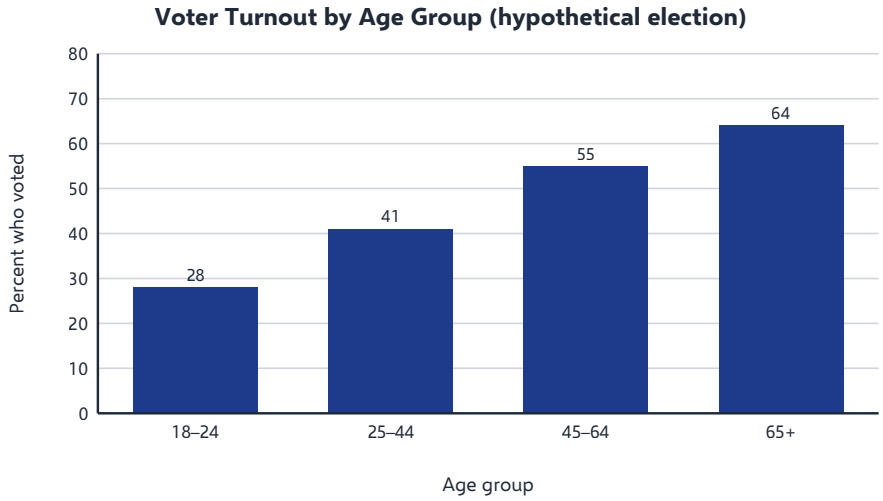
(B) It is set by the President.

(C) It equals the number of counties in the state.

(D) It equals the state's number of U.S. representatives plus its two senators.

Questions 13–14 refer to the following.

The graph shows voter turnout by age group in a hypothetical election.



13 Which conclusion is supported by the graph?

(A) Younger voters turned out at higher rates than older voters.

(B) More than half of every age group voted.

(C) Voter turnout increased with each older age group.

(D) The 25–44 age group had the highest turnout.

14 How many percentage points higher was turnout for people 65 and older than for people 18–24?

Answer: _____ percentage points

Questions 15–16 refer to the following.

Declaration of Independence (1776)

> We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.—That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed.

Public domain.

15 According to this passage, where do governments get their "just powers"?

(A) From the consent of the governed
(B) From the king
(C) From the army
(D) From the wealthiest citizens

16 The ideas in this passage were most influenced by Enlightenment thinkers such as John Locke, who wrote that people have

(A) a duty to obey kings without question
(B) natural rights that government must protect
(C) no rights unless the government grants them
(D) a right to own colonies

17 In Brown v. Board of Education (1954), the Supreme Court ruled that

(A) states could require separate schools for Black and white students
(B) women had the right to vote
(C) racial segregation in public schools was unconstitutional
(D) the federal government could not fund schools

18 Police question a suspect about a crime. The suspect says, "I won't answer that. I don't have to be a witness against myself." Which amendment protects this right?

(A) First Amendment
(B) Fifth Amendment
(C) Fourth Amendment
(D) Eighth Amendment

19 Which statement about a city council meeting is an opinion?

(A) The new budget is the best one the city has ever passed.
(B) The council voted 5–2 to approve the budget.
(C) The budget includes $2 million for road repair.
(D) The city council has seven members.

20 Which example best shows the principle of the rule of law?

(A) A wealthy business owner is excused from paying a fine.
(B) A governor ignores a court ruling she disagrees with.
(C) A police chief decides which laws his officers will enforce.
(D) A mayor is charged and tried for breaking a state law, just like any other citizen.

Questions 21–22 refer to the following.

From The Federalist No. 51 (1788), by James Madison

> If men were angels, no government would be necessary. If angels were to govern men, neither external nor internal controls on government would be necessary.

Public domain.

21 What is James Madison's main point in this excerpt?

(A) People are naturally perfect, so government is unnecessary.

(B) Angels should be elected to Congress.

(C) Because people are not perfect, government is needed, and government itself needs limits.

(D) Only one branch of government is needed.

22 Which feature of the Constitution best reflects Madison's idea of "controls on government"?

(A) The Preamble

(B) Checks and balances among the three branches

(C) The national anthem

(D) State flags

Questions 23–24 refer to the following.

From the Gettysburg Address (1863), by Abraham Lincoln

> Four score and seven years ago our fathers brought forth on this continent, a new nation, conceived in Liberty, and dedicated to the proposition that all men are created equal.

Public domain.

23 Lincoln gave this speech in 1863. "Four score and seven years ago" refers to which year?

(A) 1776

(B) 1787

(C) 1791

(D) 1812

24 By saying the nation was "dedicated to the proposition that all men are created equal," Lincoln connects the Civil War to

(A) the end of the War of 1812

(B) the Louisiana Purchase

(C) the Monroe Doctrine

(D) the ideas of the Declaration of Independence

Questions 25–26 refer to the following.

Use the timeline to answer the questions.



25 How many years passed between the Louisiana Purchase and the completion of the transcontinental railroad?

Answer: _____ years

26 What did the 19th Amendment, ratified in 1920, do?

(A) Gave women the right to vote
(B) Ended slavery
(C) Created the income tax
(D) Lowered the voting age to 18

27 In 1765, Parliament passed the Stamp Act, which taxed printed materials in the American colonies. Many colonists protested with the slogan "No taxation without representation." What was their main complaint?

(A) They had to pay taxes passed by a Parliament in which they had no elected members.
(B) The tax was too low to pay for the army.
(C) They wanted to pay taxes to France instead.
(D) The tax applied only to farmers.

28 President Franklin D. Roosevelt's New Deal programs of the 1930s were mainly a response to

(A) World War I
(B) the Cold War
(C) the Civil War
(D) the Great Depression

29 The Montgomery Bus Boycott (1955–1956) began after Rosa Parks was arrested for refusing to give up her bus seat. The boycott is an example of

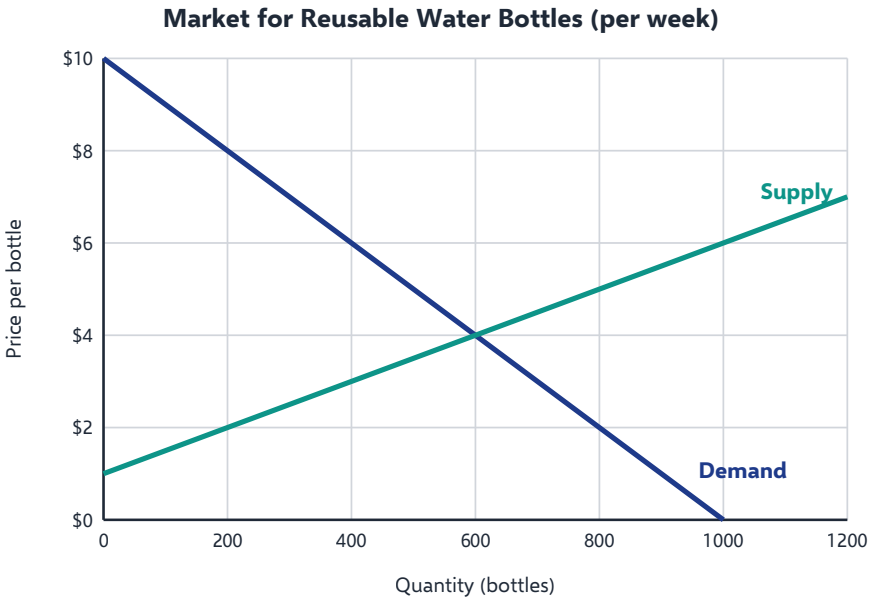
(A) a strike for higher wages
(B) a military campaign
(C) nonviolent protest against segregation
(D) a protest against taxes

30 After World War II, the U.S. policy of containment was mainly intended to

(A) end trade with Europe
(B) stop the spread of communism
(C) expand the U.S. into Mexico
(D) limit immigration from Asia

Questions 31–32 refer to the following.

Use the graph to answer the questions.



31 According to the graph, what is the equilibrium price of a reusable water bottle, in dollars?

Answer: _____ dollars

32 If the price were set at $6, what would most likely happen?

(A) There would be a shortage, because demand would be greater than supply.
(B) There would be a surplus, because sellers would offer more bottles than buyers want.
(C) Both supply and demand would be 600 bottles.
(D) No bottles would be supplied.

33 Keisha has one free Saturday. She can work an extra shift for $120 or go to a free job-training workshop. She chooses the workshop. What is her opportunity cost?

(A) $0, because the workshop is free
(B) The cost of the workshop materials
(C) The $120 she could have earned
(D) The skills she learns at the workshop

34 Last year a loaf of bread cost $2.50. This year it costs $2.80. By what percent did the price increase?

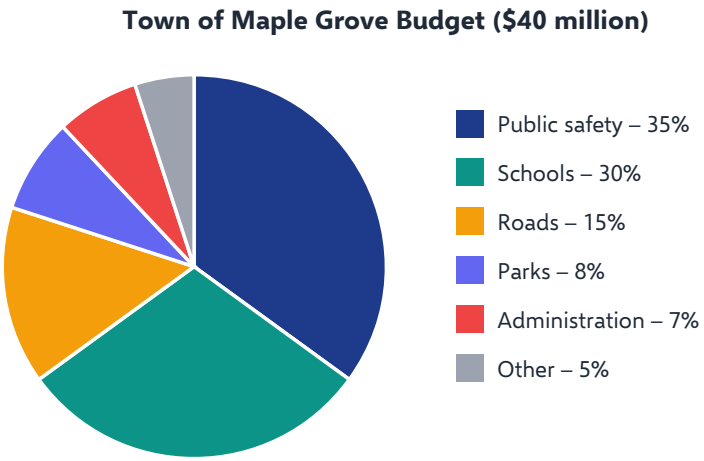
Answer: _____ %

35 When prices are rising quickly, the Federal Reserve often raises interest rates. Why?

(A) To make borrowing more expensive and slow spending, which can reduce inflation
(B) To print more money
(C) To lower taxes
(D) To increase government spending

Questions 36–37 refer to the following.

The circle graph shows how a fictional town spends its yearly budget.



36 How many million dollars does Maple Grove spend on public safety?

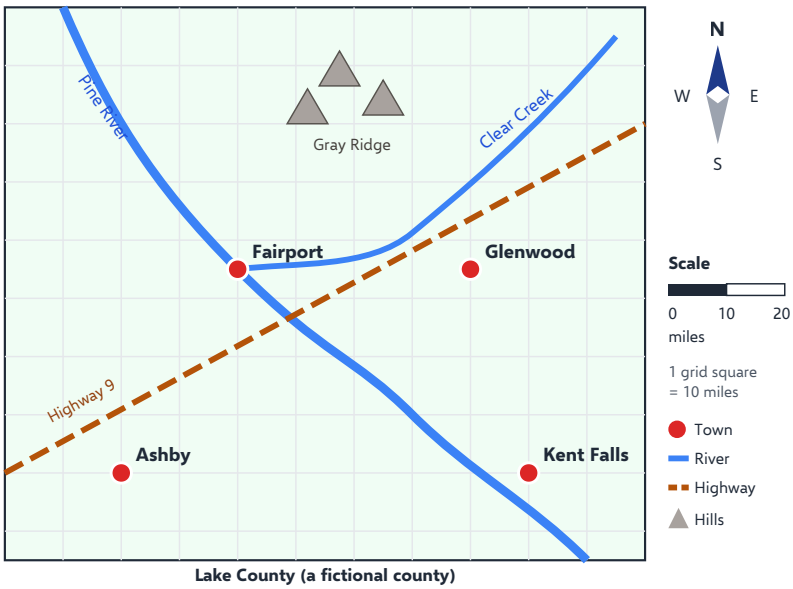
Answer: _____ million dollars

37 Which two categories together make up more than half of the budget?

(A) Roads and parks
(B) Parks and schools
(C) Administration and other
(D) Public safety and schools

Questions 38–40 refer to the following.

Use the map of fictional Lake County to answer the questions.



38 In which direction would you travel to go from Ashby to Fairport?

(A) Southwest

(B) Northeast

(C) Southeast

(D) Northwest

39 Using the map scale, about how many miles is it in a straight line from Fairport to Glenwood?

Answer: _____ miles

40 Fairport is located where Pine River and Clear Creek meet. Which is the most likely reason a town grew at this spot?

(A) Rivers made the land too wet to farm.

(B) The hills protected the town from cold winds.

(C) The highway was built before the town.

(D) Rivers provided water, transportation and trade routes.

41 Which location is in both the Southern Hemisphere and the Western Hemisphere?

(A) 40°N, 74°W

(B) 23°S, 46°W

(C) 35°N, 139°E

(D) 33°S, 151°E

42 A region has 1,200,000 people living on 4,800 square miles of land. What is its population density, in people per square mile?

Answer: _____ people per sq mi

43 A family moves from a rural area to a large city because a hospital there offers higher-paying jobs. In the study of migration, the job opportunities are a

(A) pull factor

(B) push factor

(C) natural barrier

(D) physical feature

44 During the 1930s, the Dust Bowl struck the southern Great Plains. Which combination of causes best explains it?

(A) Heavy rain and flooding

(B) Severe drought combined with farming methods that removed the native grasses holding the soil

(C) Volcanic eruptions in the Rocky Mountains

(D) A sudden ice age

Average temperatures for two cities at about the same latitude

City	January average	July average
City A (coast)	50 °F	66 °F
City B (inland)	22 °F	78 °F

45 City A is on the ocean coast. City B is far inland at about the same latitude. Which statement best explains the difference in their temperatures?

(A) City B is at a higher latitude.

(B) Inland cities are always closer to the equator.

(C) Large bodies of water heat and cool slowly, so they keep nearby coastal temperatures milder.

(D) Ocean water makes the summers hotter.

Answer sheet · Mathematical Reasoning

Fill in one bubble for each multiple-choice and drop-down question. Write fill-in-the-blank answers on the line.

1 (A) (B) (C) (D)

2 _____

3 (A) (B) (C)

4 (A) (B) (C) (D)

5 _____

6 (A) (B) (C) (D)

7 _____

8 (A) (B) (C) (D)

9 _____

10 (A) (B) (C) (D)

11 _____

12 (A) (B) (C) (D)

13 (A) (B) (C) (D)

14 (A) (B) (C) (D)

15 _____

16 _____

17 (A) (B) (C) (D)

18 (A) (B) (C) (D)

19 (A) (B) (C) (D)

20 (A) (B) (C) (D)

21 (A) (B) (C) (D)

22 (A) (B) (C) (D)

23 (A) (B) (C) (D)

24 (A) (B) (C) (D)

25 _____

26 (A) (B) (C) (D)

27 (A) (B) (C) (D)

28 _____

29 (A) (B) (C) (D)

30 (A) (B) (C) (D)

31 (A) (B) (C) (D)

32 _____

33 (A) (B) (C) (D)

34 (A) (B) (C) (D)

35 _____

36 _____

37 (A) (B) (C) (D)

38 (A) (B) (C) (D)

39 (A) (B) (C) (D)

40 (A) (B) (C) (D)

41 _____

42 (A) (B) (C) (D)

43 _____

44 (A) (B) (C) (D)

45 (A) (B) (C) (D)

46 (A) (B) (C) (D)

Score: _____ / 46

Answer sheet · Reasoning Through Language Arts

Fill in one bubble for each multiple-choice and drop-down question. Write fill-in-the-blank answers on the line.

1	Ⓐ Ⓑ Ⓒ Ⓓ	**17**	Ⓐ Ⓑ Ⓒ Ⓓ	**33**	Ⓐ Ⓑ Ⓒ Ⓓ
2	Ⓐ Ⓑ Ⓒ Ⓓ	**18**	Ⓐ Ⓑ Ⓒ Ⓓ	**34**	Ⓐ Ⓑ Ⓒ Ⓓ
3	Ⓐ Ⓑ Ⓒ Ⓓ	**19**	Ⓐ Ⓑ Ⓒ Ⓓ	**35**	Ⓐ Ⓑ Ⓒ Ⓓ
4	Ⓐ Ⓑ Ⓒ Ⓓ	**20**	Ⓐ Ⓑ Ⓒ Ⓓ	**36**	Ⓐ Ⓑ Ⓒ Ⓓ
5	Ⓐ Ⓑ Ⓒ Ⓓ	**21**	Ⓐ Ⓑ Ⓒ Ⓓ	**37**	Ⓐ Ⓑ Ⓒ Ⓓ
6	Ⓐ Ⓑ Ⓒ Ⓓ	**22**	Ⓐ Ⓑ Ⓒ Ⓓ	**38**	Ⓐ Ⓑ Ⓒ Ⓓ
7	Ⓐ Ⓑ Ⓒ Ⓓ	**23**	Ⓐ Ⓑ Ⓒ Ⓓ	**39**	Ⓐ Ⓑ Ⓒ Ⓓ
8	Ⓐ Ⓑ Ⓒ Ⓓ	**24**	Ⓐ Ⓑ Ⓒ Ⓓ	**40**	Ⓐ Ⓑ Ⓒ Ⓓ
9	Ⓐ Ⓑ Ⓒ Ⓓ	**25**	Ⓐ Ⓑ Ⓒ Ⓓ	**41**	Ⓐ Ⓑ Ⓒ Ⓓ
10	Ⓐ Ⓑ Ⓒ Ⓓ	**26**	Ⓐ Ⓑ Ⓒ Ⓓ	**42**	Ⓐ Ⓑ Ⓒ Ⓓ
11	Ⓐ Ⓑ Ⓒ Ⓓ	**27**	Ⓐ Ⓑ Ⓒ Ⓓ	**43**	Ⓐ Ⓑ Ⓒ Ⓓ
12	Ⓐ Ⓑ Ⓒ Ⓓ	**28**	Ⓐ Ⓑ Ⓒ Ⓓ	**44**	Ⓐ Ⓑ Ⓒ Ⓓ
13	Ⓐ Ⓑ Ⓒ Ⓓ	**29**	Ⓐ Ⓑ Ⓒ Ⓓ	**45**	Ⓐ Ⓑ Ⓒ Ⓓ
14	Ⓐ Ⓑ Ⓒ Ⓓ	**30**	Ⓐ Ⓑ Ⓒ Ⓓ	**46**	Ⓐ Ⓑ Ⓒ Ⓓ
15	Ⓐ Ⓑ Ⓒ Ⓓ	**31**	Ⓐ Ⓑ Ⓒ Ⓓ		
16	Ⓐ Ⓑ Ⓒ Ⓓ	**32**	Ⓐ Ⓑ Ⓒ Ⓓ		

Write your extended response on the three lined writing pages.

Score: _____ / 46 (+ essay ____ / 6 × 2)

Answer sheet · Science

Fill in one bubble for each multiple-choice and drop-down question. Write fill-in-the-blank answers on the line.

1 (A) (B) (C) (D)

2 (A) (B) (C) (D)

3 _____

4 (A) (B) (C) (D)

5 (A) (B) (C) (D)

6 (A) (B) (C) (D)

7 (A) (B) (C) (D)

8 (A) (B) (C) (D)

9 (A) (B) (C) (D)

10 (A) (B) (C) (D)

11 (A) (B) (C) (D)

12 (A) (B) (C) (D)

13 _____

14 (A) (B) (C) (D)

15 (A) (B) (C) (D)

16 (A) (B) (C) (D)

17 _____

18 (A) (B) (C) (D)

19 (A) (B) (C) (D)

20 _____

21 (A) (B) (C) (D)

22 _____

23 (A) (B) (C) (D)

24 _____

25 (A) (B) (C) (D)

26 _____

27 (A) (B) (C) (D)

28 (A) (B) (C) (D)

29 (A) (B) (C) (D)

30 (A) (B) (C) (D)

31 _____

32 (A) (B) (C) (D)

33 (A) (B) (C) (D)

34 (A) (B) (C) (D)

35 (A) (B) (C) (D)

36 _____

37 (A) (B) (C) (D)

38 (A) (B) (C) (D)

39 (A) (B) (C) (D)

40 (A) (B) (C) (D)

Score: _____ / 40

Answer sheet · Social Studies

Fill in one bubble for each multiple-choice and drop-down question. Write fill-in-the-blank answers on the line.

1 (A) (B) (C) (D)
2 (A) (B) (C) (D)
3 (A) (B) (C) (D)
4 (A) (B) (C) (D)
5 (A) (B) (C) (D)
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26 (A) (B) (C) (D)
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28 (A) (B) (C) (D)
29 (A) (B) (C) (D)
30 (A) (B) (C) (D)
31 _____
32 (A) (B) (C) (D)
33 (A) (B) (C) (D)
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35 (A) (B) (C) (D)
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37 (A) (B) (C) (D)
38 (A) (B) (C) (D)
39 _____
40 (A) (B) (C) (D)
41 (A) (B) (C) (D)
42 _____
43 (A) (B) (C) (D)
44 (A) (B) (C) (D)
45 (A) (B) (C) (D)

Score: _____ / 45

Answer key and explanations · Mathematical Reasoning

1. (C) 7/12 Quantitative Problem Solving
Use a common denominator of 12: 3/4 = 9/12 and 1/6 = 2/12. Then 9/12 − 2/12 = 7/12.

2. 17 Quantitative Problem Solving
Order of operations: exponent first ($2^3 = 8$), then multiply and divide ($4 \times 3 = 12$, $6 \div 2 = 3$), then add and subtract left to right: 8 + 12 − 3 = 17.

3. (B) > Quantitative Problem Solving
−3/5 = −0.6. On a number line, −0.6 is to the right of −0.7, so −0.6 is greater: −3/5 > −0.7.

4. (C) 8 Quantitative Problem Solving
√49 = 7 and √64 = 8, so √50 is a little more than 7, and √70 is a little more than 8 (because √64 = 8 and √81 = 9). The only whole number between them is 8.

5. −26 Quantitative Problem Solving
Multiply and divide first: (−4)(5) = −20 and 18 ÷ (−3) = −6. Then −20 + (−6) = −26.

6. (B) $66.78 Quantitative Problem Solving
Sale price: 25% of $84 is $21, so the sale price is $84 − $21 = $63.00. Tax: 6% of $63 is $3.78. Total: $63.00 + $3.78 = $66.78.

7. 270 Quantitative Problem Solving
The rate is 162 ÷ 6 = 27 miles per gallon. On 10 gallons: 27 × 10 = 270 miles.

8. (B) 14 Quantitative Problem Solving
Add the values: 8 + 15 + 9 + 22 + 16 = 70. Divide by the number of values: 70 ÷ 5 = 14. (15 is the median, not the mean.)

9. 225 Quantitative Problem Solving
Area of a rectangle = length × width = 18 × 12.5 = 225 square feet.

10. (C) 282.6 cubic inches Quantitative Problem Solving
Volume of a cylinder = $\pi r^2 h = 3.14 \times 3^2 \times 10 = 3.14 \times 9 \times 10 = 282.6$ cubic inches. (1,130.4 uses the diameter, 6, in place of the radius.)

11. −2 Algebraic Problem Solving
Slope = $(y_2 - y_1) \div (x_2 - x_1) = (-7 - 5) \div (4 - (-2)) = -12 \div 6 = -2$.

12. (D) x = 12 Algebraic Problem Solving
Subtract 2x from both sides: x − 7 = 5. Add 7 to both sides: x = 12. Check: 3(12) − 7 = 29 and 2(12) + 5 = 29.

13. (A) $2x^2 - 5x - 12$ Algebraic Problem Solving
Multiply each term: $2x \cdot x = 2x^2$, $2x \cdot (-4) = -8x$, $3 \cdot x = 3x$, $3 \cdot (-4) = -12$. Combine like terms: $2x^2 - 8x + 3x - 12 = 2x^2 - 5x - 12$.

14. (D) x < −3 Algebraic Problem Solving
Subtract 9: −4x > 12. Divide both sides by −4 and reverse the inequality sign because you divided by a negative number: x < −3.

15. 12 Algebraic Problem Solving
Substitute −2 for x: $(-2)^2 - 3(-2) + 2 = 4 + 6 + 2 = 12$.

16. 12 Quantitative Problem Solving
The ladder, wall and ground form a right triangle with the ladder as the hypotenuse. $a^2 + 5^2 = 13^2$, so $a^2 = 169 - 25 = 144$ and a = 12 feet.

17. (B) $336 Quantitative Problem Solving
Simple interest I = prt = $2,400 × 0.035 × 4 = $336. ($2,736 is the total balance after 4 years, not the interest.)

18. (A) 7/20 Quantitative Problem Solving
There are 5 + 7 + 8 = 20 marbles and 7 are blue, so the probability is 7/20 (0.35, or 35%).

19. (B) 8×10^3 Quantitative Problem Solving
Multiply the numbers: 3.2 × 2.5 = 8. Add the exponents: $10^5 \times 10^{-2} = 10^3$. The product is 8×10^3 (8,000).

20. (B) Store B Quantitative Problem Solving
Unit prices: A = \$4.08 ÷ 24 = \$0.17 per ounce; B = \$5.12 ÷ 32 = \$0.16 per ounce; C = \$3.24 ÷ 18 = \$0.18 per ounce. Store B is lowest.

21. (B) 3x − 4 Algebraic Problem Solving
Slope-intercept form is y = mx + b, where m is the slope and b is the y-intercept. Here m = 3 and b = −4, so y = 3x − 4.

22. (D) (9, 5) Algebraic Problem Solving
Add the equations: 2x = 18, so x = 9. Substitute: 9 + y = 14, so y = 5. The solution is (9, 5).

23. (A) (x − 5)(x + 4) Algebraic Problem Solving
Find two numbers that multiply to −20 and add to −1: −5 and 4. So $x^2 - x - 20 = (x - 5)(x + 4)$.

24. (D) x = 3 and x = −5 Algebraic Problem Solving
Factor: $x^2 + 2x - 15 = (x + 5)(x - 3) = 0$. Set each factor equal to zero: x = −5 or x = 3.

25. 25% Quantitative Problem Solving
Percent change = (new − old) ÷ old × 100 = (350 − 280) ÷ 280 × 100 = 70 ÷ 280 × 100 = 25%.

26. (B) 170 loaves Quantitative Problem Solving
Range = greatest value − least value = 450 (June) − 280 (February) = 170 loaves.

27. (B) 43.96 cm Quantitative Problem Solving
Circumference = πd = 3.14 × 14 = 43.96 cm. (153.86 is the area, πr^2 with r = 7.)

28. 80 Quantitative Problem Solving
Rectangle: 10 × 6 = 60 sq ft. Triangle: ½ × base × height = ½ × 10 × 4 = 20 sq ft. Total: 60 + 20 = 80 square feet.

29. (C) 94 square inches Quantitative Problem Solving
Surface area = 2lw + 2lh + 2wh = 2(5·4) + 2(5·3) + 2(4·3) = 40 + 30 + 24 = 94 square inches. (60 is the volume in cubic inches.)

30. (D) w = (P − 2l) ÷ 2 Algebraic Problem Solving
Subtract 2l from both sides: P − 2l = 2w. Divide both sides by 2: w = (P − 2l) ÷ 2.

31. (A) C = 48h + 65 Algebraic Problem Solving
The \$48 is charged for each hour, so it is multiplied by h. The \$65 fee is charged once, so it is added: C = 48h + 65.

32. \$233 Algebraic Problem Solving
C = 48(3.5) + 65 = 168 + 65 = \$233.

33. (D) x^5 Algebraic Problem Solving
When multiplying powers with the same base, add exponents: $x^4 \cdot x^3 = x^7$. When dividing, subtract: $x^7 \div x^2 = x^5$.

34. (A) y = 3x + 5 Algebraic Problem Solving
Each time x increases by 1, y increases by 3, so the slope is 3. When x = 0, y = 5, so the y-intercept is 5: y = 3x + 5. Check: x = 3 gives 3(3) + 5 = 14.

35. 2 Algebraic Problem Solving
The line passes through (0, −2) and (3, 4). Slope = (4 − (−2)) ÷ (3 − 0) = 6 ÷ 3 = 2.

36. 25% Quantitative Problem Solving
Divide the part by the whole: 18 ÷ 72 = 0.25. Multiply by 100: 25%.

37. (B) 5 cups Quantitative Problem Solving
Set up a proportion: 3/2 = 7.5/s. Cross-multiply: 3s = 15, so s = 5 cups.

38. (C) 1 Quantitative Problem Solving
|−8| = 8. 3 − 10 = −7 and |−7| = 7. So 8 − 7 = 1.

39. (B) 1/6 Quantitative Problem Solving
P(heads) = 1/2. Numbers greater than 4 are 5 and 6, so P(greater than 4) = 2/6 = 1/3. The events are independent, so multiply: 1/2 × 1/3 = 1/6.

40. (C) 15.625 cubic feet Quantitative Problem Solving
Volume of a cube = s^3 = 2.5 × 2.5 × 2.5 = 15.625 cubic feet. (37.5 is the surface area, $6s^2$.)

41. 84.75 Quantitative Problem Solving
Sum = 78 + 85 + 92 + 85 + 70 + 88 + 85 + 95 = 678. Mean = 678 ÷ 8 = 84.75.

42. (B) ≤ Algebraic Problem Solving
The total cost, 3.75n, can be equal to $50 or less than $50, so the inequality is 3.75n ≤ 50.

43. 13 Algebraic Problem Solving
50 ÷ 3.75 ≈ 13.33. She cannot buy part of a notebook, so the greatest whole number is 13 (13 × $3.75 = $48.75; 14 notebooks would cost $52.50).

44. (A) −4 Algebraic Problem Solving
The function is in vertex form, $f(x) = (x − h)^2 + k$, with vertex (3, −4). Because $(x − 3)^2$ is never negative, the smallest value of f(x) is −4, reached when x = 3.

45. (D) As hours studied increase, quiz scores tend to increase. Quantitative Problem Solving
The points rise from left to right, which shows a positive association: students who studied more hours tended to earn higher scores.

46. (C) 2,315 Algebraic Problem Solving
Use exponential growth: 2,000 × $(1.05)^3$ = 2,000 × 1.157625 = 2,315.25, or about 2,315. (2,300 adds 5% of 2,000 three times, which ignores the growth on the growth.)

Answer key and explanations · Reasoning Through Language Arts

1. (B) Small-town libraries are expanding their services to meet the changing needs of their communities. Reading for Meaning
The article describes many new services (tools, hot spots, computers, a maker space) and explains how they help residents. Choice A is wrong because book circulation is still valued; C is the opposite of Ortiz's view; D is wrong because the board held three meetings and made a compromise.

2. (D) To show how different the library's activities are today from its original mission Reading for Meaning
Paragraph 1 contrasts the 1962 mission ("lend books and keep the building quiet") with today's busy, noisy activities, which introduces the article's focus on change.

3. (A) They do not have reliable internet access at home. Reading for Meaning
Ortiz says everything is online "only if you can get online" and that the library is "the bridge." Thousands of computer sessions for job searches and forms suggest many residents cannot do these tasks at home. Paragraph 2 also mentions slow, expensive or unavailable home internet.

4. (D) The library helps connect people to online services they could not otherwise reach. Reading for Meaning
"Bridge" is used figuratively. In context, the library connects residents who cannot get online with jobs, forms and applications that are only online.

5. (C) It kept the fiction collection the same size by moving older titles to storage that patrons can request from. Reading for Meaning
Paragraph 4 says the board held public meetings and "kept the fiction collection the same size by moving older, rarely borrowed titles into a storage room."

6. (D) Book circulation rose by 6 percent in the year after the maker space opened. Reading for Meaning
Ortiz's claim is that non-book services bring people who then borrow books. The rise in book circulation after the maker space opened is the evidence that directly supports it.

7. (A) To describe a challenge that could limit the library's new services Reading for Meaning
Paragraph 6 begins "Funding remains the biggest challenge" and explains that the money for new equipment may not last. It presents a challenge, even though Ortiz remains optimistic.

8. (D) Generally approving, while noting real challenges Reading for Meaning
The author presents the changes positively (the compromise "seems to have worked," circulation rose) but also includes the debate over the maker space and the funding problem.

9. (C) Nostalgic Reading for Meaning
June remembers sorting screws as a child and notices familiar details like the flat bell and her grandfather's pencils. These memories of the past show nostalgia.

10. (B) He believed in using things fully and not wasting them. Reading for Meaning
He never threw a pencil away and used each one until it was almost too short to hold. The saying shows that he valued using things completely.

11. (B) June doubts that her brother truly understood their grandfather. Reading for Meaning
June questions Neil's claim that selling is "what Grandpa would want," which shows she doubts Neil understood their grandfather. The next sentence shows she is unsure herself, so she has not decided yet (D).

12. (A) Simile Reading for Meaning
A simile compares two unlike things using "like" or "as." The hoses are compared to sleeping snakes using "like."

13. (C) He often helped neighbors who could not pay right away, and sometimes did not charge at all. Reading for Meaning
Notes such as "pay when she can," "will work it off Saturday" and "no charge" show that he gave credit and help to people in his community.

14. (B) It contrasts the chain store's efficiency with the personal care her grandfather showed customers. Reading for Meaning
June notes that the chain store would sell the same goods for less but "would not keep a ledger like this one." The contrast highlights what would be lost.

15. (A) She has decided to carry on her grandfather's work instead of selling the store. Reading for Meaning
She writes her own name on a fresh page of the ledger, the book of her grandfather's kindness, rather than on Neil's sale papers. This suggests she will continue his store and his way of doing business. The pencil "could still write," echoing his saying.

16. (D) A family business can carry values that matter more than profit. Reading for Meaning
The ledger shows that the store was about helping neighbors, not only selling goods. June's choice suggests that these values matter more than a "more than fair" offer.

17. (C) will be Grammar and Language
The change begins on a future date (April 7), so the simple future "will be" is correct.

18. (A) needs Grammar and Language
"Every employee" is singular, so it takes the singular verb "needs."

19. (D) You will also need your car's license plate number. Grammar and Language
Only the first option is a complete sentence with a subject and a verb. The others are fragments, and the last one is also missing the apostrophe in "car's."

20. (B) so Grammar and Language
Having 400 spaces is the reason there is plenty of room, so the second idea is a result. "So" shows a cause-and-result relationship.

21. (C) Employees who Grammar and Language
"Who" is the subject of the verb "prefer," so use "who," not "whom." "Employees" is plural, not possessive, and no commas are needed because the clause identifies which employees.

22. (D) found Grammar and Language
"Found in the north lot" is a short form of "that is found in the north lot," describing the vehicle. "Founded" means "established" and is a different verb.

23. (A) me Grammar and Language
"Me" is the object of the verb "contact." Test it by removing the other name: "please contact me," not "please contact I." "Myself" is used only when the subject is also "I."

24. (D) Driving had become an obstacle she could no longer avoid. Reading for Meaning
The simile compares the need to drive to a locked door in her path: a barrier she suddenly had to face because her husband's schedule changed and her bus route was cut.

25. (C) To show that she first underestimated advice that later proved valuable Reading for Meaning
She laughed because the advice sounded like a fortune cookie, but "later I realized it was the most useful thing anyone told me." The contrast shows she underestimated it at first.

26. (C) "I drove the length of the lot at eight miles per hour while a man walking his dog passed us." Reading for Meaning
Driving so slowly that a man walking a dog passed the car shows extreme caution. Choices A and B show mistakes, and D shows Rosa's patience.

27. (A) Controlling her nervousness Reading for Meaning
She writes, "My hands learned the wheel in a few days. My nerves took much longer," and describes her racing heart and white knuckles.

28. (B) She was concentrating so hard on avoiding mistakes that she rolled through a stop sign. Reading for Meaning
Paragraph 5 says she rolled through a stop sign "that I had seen perfectly well, simply because I was concentrating so hard on not making mistakes."

29. (C) She passed, but only by a small margin. Reading for Meaning
Having two points "to spare" means she scored just two points above what she needed to pass.

30. (B) She stayed calm and encouraged her mother to keep practicing. Reading for Meaning
Rosa is called "a patient teacher," does not laugh at mistakes, says "Again," and gives calming advice about the truck.

31. (A) Learning a new skill as an adult can teach lessons about courage and humility. Reading for Meaning
In the last paragraph the author says the hardest lessons were admitting fear, accepting help and failing in front of a stranger, and that they were "worth the wait."

32. (D) The city of Riverton should bring back the Summer Night Market. Identifying and Creating Arguments
The title, the end of paragraph 1 ("It is now time to bring it back") and the final call to vote yes all state this claim.

33. (B) 41 of 52 Front Street shops reported higher Friday sales during market weeks. Identifying and Creating Arguments
The business survey in paragraph 2 directly measures sales. Visitor numbers (A) relate to community, costs (C) relate to the budget, and the emails (D) show popularity.

34. (B) She admits the concerns and proposes specific changes, supported by a traffic study. Identifying and Creating Arguments
She calls the concerns serious, then offers solutions (earlier end time, free parking with a shuttle) and cites the 2018 traffic study. This is a counterclaim followed by a rebuttal.

35. (C) "A public event that brings people together has real value." Identifying and Creating Arguments
Choices A, B and D can be checked against records or studies. Whether something "has real value" is a judgment, so it is an opinion.

36. (D) Extra sales tax from busier shops very likely made up the rest of the cost. Identifying and Creating Arguments
The author gives figures for costs and vendor fees, but she offers no numbers at all for the extra sales tax. The words "very likely" signal an assumption.

37. (C) It weakens the argument because it relies on a personal impression rather than measurable evidence. Identifying and Creating Arguments
Casual conversations are anecdotal and may not represent the whole town. Compared with the survey and city records, this is weak evidence and is an overgeneralization ("everyone").

38. (A) As a claim followed by reasons, responses to opposing views, and a call to action Identifying and Creating Arguments
The author states her claim, gives economic and community reasons, answers two objections (traffic/noise and cost), adds public support, and ends by urging a yes vote.

39. (A) $9,000 Identifying and Creating Arguments
Total cost was about $38,000 and vendor fees covered $29,000: $38,000 − $29,000 = $9,000.

40. (B) to request Grammar and Language
The infinitive "to request" explains the purpose of writing ("I am writing ... to request"). The other forms are not idiomatic here.

41. (D) have lifted Grammar and Language
The subject "tree roots" is plural, so it needs "have lifted." "Over the past two years" calls for the present perfect tense. "Lifting" alone is not a complete verb.

42. (A) his Grammar and Language
The possessive pronoun for Mr. Lyle Foster is "his." "He's" means "he is," and "its" refers to things.

43. (C) : Grammar and Language
A colon introduces the list that explains who uses the path. A semicolon must join two complete sentences, and a period would leave the list as a fragment.

44. (B) In addition Grammar and Language
The landscaping company's offer is another point that supports the request, so "In addition" is the correct transition. The offer is not a result of the signatures ("As a result"), and it is not a contrast ("Instead," "On the other hand").

45. (A) would be Grammar and Language
"We would be grateful if..." is the correct conditional form for a polite request. "Would of" is a common error for "would have."

46. (C) look forward Grammar and Language
The subject "I" needs the verb form "look." "I look forward to discussing" is the standard phrase.

Answer key and explanations · Science

1. (D) Mitochondrion Life Science
Mitochondria carry out cellular respiration, which breaks down glucose to release energy the cell can use (stored in ATP). The nucleus holds DNA, the cell wall gives plant cells support, and ribosomes make proteins.

2. (A) Oxygen Life Science
Photosynthesis: carbon dioxide + water + light energy → glucose + oxygen. Oxygen is released. Carbon dioxide is taken in, not released.

3. 75% Life Science
A Punnett square for Tt × Tt gives TT, Tt, Tt and tt. Three of the four (TT, Tt, Tt) have at least one T, so 3/4 = 75% are expected to be tall.

4. (B) 1/4 Life Science
Only one of the four boxes in the Punnett square is tt, so the probability is 1/4 (25%). These plants are short.

5. (D) Grass Life Science
Producers make their own food through photosynthesis. Grass is the only plant in the web; every other organism is a consumer.

6. (A) It will increase because fewer frogs are eating grasshoppers. Life Science
The arrow from grasshopper to frog shows that frogs eat grasshoppers. With fewer predators, more grasshoppers survive, so their population is likely to increase at first. Hawks do not eat grasshoppers in this web.

7. (C) 37 °C Life Science
The highest reaction rate in the table, 48 units, occurs at 37 °C, which is normal human body temperature.

8. (D) High temperature changed the enzyme's shape so it no longer works well. Life Science
Enzymes are proteins. Too much heat changes (denatures) their shape, so they can no longer fit their target molecules and the rate drops sharply.

9. (C) The amount of fertilizer Life Science
The independent variable is the factor the scientist changes on purpose: the amount of fertilizer. Plant height is the dependent variable (what is measured). Water, light and soil are controlled variables.

10. (B) Brown beetles will become more common. Life Science
This is natural selection. Brown beetles are camouflaged, so more of them survive and reproduce, passing on genes for brown color. Individual beetles cannot change color on purpose (C).

11. (A) homeostasis Life Science
Homeostasis is the body's way of keeping internal conditions, such as blood glucose and temperature, stable. Insulin lowering blood glucose after a meal is a classic example.

12. (D) Antibiotics kill bacteria but do not work against viruses. Life Science
Antibiotics target structures and processes found in bacteria. Viruses do not have these, so antibiotics do not treat viral infections such as colds. Using them when not needed can also contribute to antibiotic resistance.

13. 800 Life Science
Read the graph at 3 hours: the point is at 800 bacteria. The population doubled every hour from 0 to 4 hours (100, 200, 400, 800, 1,600).

14. (C) The dish ran low on nutrients and space, so the population reached its limit. Life Science
In a closed dish, food and space are limited. As resources run low, the growth rate slows until births and deaths balance, so the curve levels off at a limit called the carrying capacity.

15. (A) Thymine (T) Life Science
In DNA, adenine pairs with thymine and cytosine pairs with guanine. Uracil is found in RNA, not DNA.

16. (D) Cellular respiration Life Science
Living things release carbon dioxide when they break down food through cellular respiration. Photosynthesis removes carbon dioxide from the air.

17. 5 m/s Physical Science
Average speed = distance ÷ time = 400 m ÷ 80 s = 5 meters per second.

18. (C) 3,600 N Physical Science
F = ma = 1,200 kg × 3 m/s² = 3,600 newtons.

19. (B) 4 to 6 seconds Physical Science
On a distance-time graph, a flat (horizontal) line means the distance is not changing, so the object is at rest. The line is flat from 4 to 6 seconds at 20 meters.

20. 5 m/s Physical Science
The car traveled 20 meters in 4 seconds: 20 ÷ 4 = 5 m/s.

21. (C) At the top of the first hill Physical Science
Gravitational potential energy depends on height. The car is highest at the top of the first hill, so its potential energy is greatest there. As it falls, potential energy changes into kinetic energy.

22. 2.5 g/cm³ Physical Science
Density = mass ÷ volume = 60 g ÷ 24 cm³ = 2.5 g/cm³.

23. (A) An iron gate rusting Physical Science
Rusting forms a new substance (iron oxide), so it is a chemical change. Melting, dissolving and cutting change only the form or state of a substance, which are physical changes.

24. 16 g Physical Science
The law of conservation of mass says matter is not created or destroyed in a chemical reaction. In a sealed container, the products have the same total mass as the reactants: 12 g + 4 g = 16 g.

25. (C) The energy is being used to change liquid water into steam instead of raising the temperature. Physical Science
During boiling, added energy breaks the attractions between water molecules so they can become gas. While the state is changing, the temperature stays constant at the boiling point (100 °C at sea level).

26. 2 m Physical Science
Wavelength = speed ÷ frequency = 340 ÷ 170 = 2 meters.

27. (A) Conduction Physical Science
Conduction is heat transfer through direct contact, from particle to particle. Heat moves from the hot soup through the metal spoon to the handle.

28. (B) They go out, because the single path for the current is broken. Physical Science
In a series circuit there is only one path for electric current. If any bulb burns out, the circuit is open and current stops flowing, so all the bulbs go out.

29. (D) They have similar chemical properties. Physical Science
Elements in the same group have the same number of outer (valence) electrons, so they react in similar ways. Sodium and potassium are both very reactive metals. Each element has a different number of protons.

30. (B) More sugar dissolves in water as the temperature increases. Physical Science
The amount of sugar that dissolves rises at every temperature step, from 179 g at 0 °C to 487 g at 100 °C. D is wrong because 179 g dissolves even at 0 °C.

31. 158 g Physical Science
362 g − 204 g = 158 grams.

32. (C) 300 J Physical Science
Work = force × distance = 50 N × 6 m = 300 joules.

33. (B) Earth's axis is tilted, so the angle and length of sunlight change during the year. Earth and Space Science
Earth's axis is tilted about 23.5°. As Earth orbits the sun, each hemisphere takes turns receiving more direct sunlight and longer days (summer) or less direct sunlight and shorter days (winter). Earth is actually closest to the sun in early January.

34. (B) Sedimentary Earth and Space Science
Sedimentary rock forms when sediments are deposited in layers, compacted and cemented. Igneous rock forms from cooled magma or lava, and metamorphic rock forms when heat and pressure change existing rock.

35. (A) June Earth and Space Science
The tallest bar is June, at 4.8 inches.

36. 12.6 inches Earth and Space Science
4.8 + 4.1 + 3.7 = 12.6 inches.

37. (C) They occur where tectonic plates meet and move against each other. Earth and Space Science
Earth's crust is broken into tectonic plates. Most earthquakes and volcanoes happen along plate boundaries, where plates collide, pull apart or slide past each other.

38. (D) The gravitational pull of the moon Earth and Space Science
Tides are caused mainly by the moon's gravity pulling on Earth's oceans. The sun also has a smaller effect.

39. (A) Wind Earth and Space Science
Wind is renewed naturally and will not run out on a human time scale. Coal, natural gas and oil are fossil fuels, which form over millions of years and are nonrenewable.

40. (D) They absorb heat given off by Earth's surface and keep the planet warmer. Earth and Space Science
Greenhouse gases let sunlight pass through but absorb some of the heat (infrared energy) that Earth's surface gives off, trapping warmth in the lower atmosphere.

Answer key and explanations · Social Studies

1. (C) Popular sovereignty: the government's power comes from the people Civics and Government
By opening with "We the People," the Constitution states that the people, not a king or the states alone, create the government. This is popular sovereignty.

2. (D) "provide for the common defence" Civics and Government
"Provide for the common defence" (original spelling) means protecting the nation from outside threats, which is the purpose of armed forces.

3. (A) A group holds a peaceful protest outside city hall. Civics and Government
The First Amendment protects "the right of the people peaceably to assemble, and to petition the Government." Quartering soldiers is the Third Amendment, jury trials are the Sixth and Seventh, and the right to bear arms is the Second.

4. (D) The right to bear arms Civics and Government
The right to keep and bear arms is in the Second Amendment. The First Amendment covers religion, speech, press, assembly and petition.

5. (B) Override the veto with a two-thirds vote in both the House and the Senate Civics and Government
Under the Constitution, Congress can override a presidential veto with a two-thirds vote in each chamber. This is an example of checks and balances.

6. (C) Declare laws or government actions unconstitutional Civics and Government
Judicial review is the power of courts to decide whether laws and government actions follow the Constitution and to strike them down if they do not.

7. (C) judicial Civics and Government
The legislative branch (Congress) makes laws, the executive branch (the President) carries them out, and the judicial branch (the courts) interprets them.

8. (D) Issuing driver's licenses Civics and Government
The Tenth Amendment reserves powers not given to the national government to the states. States issue driver's licenses. Printing money, declaring war and making treaties are national powers.

9. (C) the Great Compromise Civics and Government
The Great (Connecticut) Compromise created a two-house Congress: equal representation in the Senate and population-based representation in the House.

10. (C) 6 Civics and Government
Senators serve six-year terms. Members of the House serve two-year terms, and the President serves a four-year term.

11. (A) Two-thirds of both houses of Congress propose it, and three-fourths of the states ratify it. Civics and Government
Article V describes the process. All 27 amendments so far were proposed by a two-thirds vote of both houses of Congress and then ratified by three-fourths of the states.

12. (D) It equals the state's number of U.S. representatives plus its two senators. Civics and Government
Each state's electors equal the size of its congressional delegation: its House members plus two senators. (The District of Columbia also has three electors.)

13. (C) Voter turnout increased with each older age group. Civics and Government
Turnout rises steadily: 28%, 41%, 55% and 64%. Only the two oldest groups were above 50%.

14. 36 Civics and Government
64% − 28% = 36 percentage points.

15. (A) From the consent of the governed Civics and Government
The passage says governments derive "their just powers from the consent of the governed," meaning legitimate power comes from the people's agreement.

16. (B) natural rights that government must protect U.S. History
Locke argued that people have natural rights (life, liberty and property) and that government exists to protect them. The Declaration echoes this with "Life, Liberty and the pursuit of Happiness."

17. (C) racial segregation in public schools was unconstitutional U.S. History
Brown v. Board of Education ruled that "separate but equal" public schools violated the Fourteenth Amendment's equal protection clause, reversing the reasoning of Plessy v. Ferguson (1896) for public education.

18. (B) Fifth Amendment Civics and Government
The Fifth Amendment says no person "shall be compelled in any criminal case to be a witness against himself." The Fourth covers searches and seizures and the Eighth covers cruel and unusual punishment.

19. (A) The new budget is the best one the city has ever passed. Civics and Government
"The best one ever" is a judgment that cannot be proven true or false. The other statements can be checked against records.

20. (D) A mayor is charged and tried for breaking a state law, just like any other citizen. Civics and Government
The rule of law means that everyone, including government officials, must follow the same laws. The other choices show people placing themselves above the law.

21. (C) Because people are not perfect, government is needed, and government itself needs limits. Civics and Government
Madison says government is needed because people are not angels, and that controls on government are needed because the people who govern are not angels either. This supports checks and balances.

22. (B) Checks and balances among the three branches Civics and Government
Checks and balances let each branch limit the others (for example, vetoes, veto overrides and judicial review), so no branch becomes too powerful.

23. (A) 1776 U.S. History
A score is 20 years, so four score and seven is 87 years. $1863 - 87 = 1776$, the year of the Declaration of Independence.

24. (D) the ideas of the Declaration of Independence U.S. History
The phrase "all men are created equal" comes from the Declaration of Independence. Lincoln presents the war as a test of whether a nation built on that idea can survive.

25. 66 U.S. History
$1869 - 1803 = 66$ years.

26. (A) Gave women the right to vote U.S. History
The 19th Amendment prohibits denying the right to vote because of sex. Slavery was ended by the 13th Amendment, the income tax by the 16th, and the voting age of 18 by the 26th.

27. (A) They had to pay taxes passed by a Parliament in which they had no elected members. U.S. History
Colonists argued that only their own elected assemblies could tax them. Because they had no representatives in Parliament, they saw its taxes as unfair.

28. (D) the Great Depression U.S. History
The New Deal created jobs programs, banking reforms and Social Security to address the unemployment and poverty of the Great Depression.

29. (C) nonviolent protest against segregation U.S. History
African American residents of Montgomery, Alabama, refused to ride city buses for over a year to protest segregated seating. It was a major nonviolent action of the civil rights movement.

30. (B) stop the spread of communism U.S. History
During the Cold War, containment aimed to prevent the Soviet Union and communism from spreading to more countries, through aid, alliances and, at times, military action.

31. **$4** Economics
Equilibrium is where the supply and demand lines cross: at a price of $4 and a quantity of 600 bottles.

32. **(B) There would be a surplus, because sellers would offer more bottles than buyers want.** Economics
At $6, the demand line shows about 400 bottles demanded, while the supply line shows about 1,000 supplied. Quantity supplied is greater than quantity demanded, so there is a surplus.

33. **(C) The $120 she could have earned** Economics
Opportunity cost is the value of the next-best choice you give up. By choosing the workshop, Keisha gives up the $120 shift.

34. **12%** Economics
Percent increase = (2.80 − 2.50) ÷ 2.50 × 100 = 0.30 ÷ 2.50 × 100 = 12%.

35. **(A) To make borrowing more expensive and slow spending, which can reduce inflation** Economics
Higher interest rates make loans more expensive, so people and businesses borrow and spend less. Lower demand helps slow price increases.

36. **$14 million** Economics
35% of $40 million = 0.35 × 40 = $14 million.

37. **(D) Public safety and schools** Economics
Public safety (35%) + schools (30%) = 65%, which is more than half. The other pairs add up to less than 50%.

38. **(B) Northeast** Geography and the World
Using the compass rose, Fairport is above (north of) and to the right (east) of Ashby, so you would travel northeast.

39. **40 miles** Geography and the World
Glenwood is 4 grid squares east of Fairport. Each square is 10 miles, so the distance is 4 × 10 = 40 miles.

40. **(D) Rivers provided water, transportation and trade routes.** Geography and the World
Historically, many towns grew where rivers meet because rivers provided fresh water, power, fishing and an easy way to move people and goods.

41. **(B) 23°S, 46°W** Geography and the World
Latitudes marked S are south of the equator, and longitudes marked W are west of the prime meridian. Only 23°S, 46°W has both.

42. **250** Geography and the World
Population density = population ÷ area = 1,200,000 ÷ 4,800 = 250 people per square mile.

43. **(A) pull factor** Geography and the World
Pull factors attract people to a new place (jobs, safety, schools). Push factors drive people away from where they live (lack of work, conflict, disasters).

44. **(B) Severe drought combined with farming methods that removed the native grasses holding the soil** Geography and the World
Years of drought, plus plowing that removed deep-rooted prairie grasses, left dry topsoil exposed. Strong winds then carried it away in huge dust storms. This shows how human actions and the environment interact.

45. **(C) Large bodies of water heat and cool slowly, so they keep nearby coastal temperatures milder.** Geography and the World
City A's range is 66 − 50 = 16 °F, while City B's is 78 − 22 = 56 °F. Water changes temperature more slowly than land, so oceans keep coastal winters warmer and summers cooler.

Extended response: scoring rubric and checklist

The essay is scored from 0 to 6 (three traits × 0–2 points). In this practice test, your essay points count double toward your Reasoning Through Language Arts estimate, so the essay is worth about one-fifth of the RLA score. An essay that is blank, off-topic or copied from the passages scores 0.

Trait 1 · Argument and use of evidence

Points	What it looks like
2	You state a clear position on which passage is better supported. You use several specific pieces of evidence from BOTH passages and explain why the evidence is strong or weak (for example, data compared with personal stories, or claims with no support).
1	You state a position, but your analysis is general or one-sided. You use some evidence, or you summarize the passages more than you evaluate them.
0	There is no clear position, little or no evidence from the passages, or the response does not answer the prompt.

Trait 2 · Development and organization

Points	What it looks like
2	Your response has a clear introduction, well-developed body paragraphs and a conclusion. Each idea is explained, ideas follow a logical order, transitions connect them, and the tone is formal.
1	Your response has some organization, but some ideas are not fully explained or the order is hard to follow in places.
0	Your response has little organization or development, or is too short to show either.

Trait 3 · Clarity and command of standard English

Points	What it looks like
2	Your sentences are clear and varied. You use standard grammar, usage, capitalization and punctuation, with only minor errors that do not get in the way of meaning.
1	Your writing has some errors or awkward sentences, but your meaning is mostly clear.
0	Frequent errors make your writing hard to understand.

Self-check checklist

☐ My first paragraph says clearly which passage is better supported.
☐ I used at least two specific pieces of evidence from Passage 1.
☐ I used at least two specific pieces of evidence from Passage 2.
☐ I explained WHY the evidence is strong or weak, not just what it says.
☐ I pointed out at least one unsupported claim, generalization or appeal to emotion.
☐ Each body paragraph has one main idea.
☐ I used transitions such as "In contrast," "However" and "As a result."
☐ My conclusion restates my position in new words.
☐ I wrote about 4–7 paragraphs in a formal tone.
☐ I saved 3–5 minutes to proofread for grammar and punctuation.

Trait 1: ___ / 2 **Trait 2:** ___ / 2 **Trait 3:** ___ / 2 **Total:** ___ / 6

Model answer (a high-scoring response)

Riverton's red-light camera program has strong supporters and strong critics. After comparing the two passages, I find that Dr. Karen Liu's argument in favor of the cameras is much better supported than Ray Dunham's argument against them. Liu relies on measurable data and answers the objections to her position, while Dunham relies mainly on personal experience, guesses and fears about the future.

The most important difference is the quality of the evidence. Liu uses the police department's crash reports to show that side-impact crashes at the six camera intersections fell from 48 to 27, a drop of about 44 percent. She also compares those intersections with similar ones that did not have cameras, where crashes fell by only 5 percent. This comparison is persuasive because it suggests that the cameras, and not some other change, caused most of the improvement. Dunham, in contrast, offers one ticket that he received and the stories of three customers. These examples may be true, but four people are not enough to show how the program works for a whole city.

The two writers also treat the issue of rear-end crashes very differently. Dunham says, "Everyone knows that cameras make people slam on their brakes," and he is "sure the cameras are to blame" for the damage he sees in his shop. However, he gives no numbers, and many other things could explain an increase in repairs at one business. Liu actually admits that rear-end crashes rose from 31 to 35, and then explains why that small increase is outweighed by the large drop in more dangerous side-impact crashes. By addressing the counterargument honestly, Liu makes her own position more believable.

Finally, Dunham relies on emotional appeals and unsupported predictions. He calls the cameras "a tax disguised as safety" and warns that "tomorrow it could be cameras on every street corner." This is a slippery-slope argument, because he gives no evidence that the city plans to do this. He also claims that the city will never give up the fine money, even though Liu points to a city law that sends extra revenue to sidewalks and crosswalks. Dunham does suggest longer yellow lights, which is a reasonable idea, but he does not provide any evidence that it would work as well as the cameras.

In conclusion, Liu's passage is better supported because it uses official data, makes a fair comparison and responds directly to the concerns of critics. Dunham's passage raises feelings that many drivers share, but it depends on anecdotes, generalizations and fear rather than facts.

Score conversion table

Find the percent of points you earned in a subject: (points ÷ total points) × 100. In Reasoning Through Language Arts, add your essay score × 2 to your correct answers, and divide by 58 (46 questions + 12 essay points).

Percent of points	Estimated score	Range
0%	100	Below passing range
5%	104	Below passing range
10%	108	Below passing range
15%	112	Below passing range
20%	116	Below passing range
25%	120	Below passing range
30%	124	Below passing range
35%	128	Below passing range
40%	131	Below passing range
45%	135	Below passing range
50%	139	Below passing range
55%	143	Below passing range
60%	147	Passing range
65%	151	Passing range
70%	156	Passing range
75%	160	Passing range
80%	165	College-ready range
85%	174	College-ready range
90%	182	College-ready range
95%	191	College-ready range
100%	200	College-ready range

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