

DIGITAL SAT-STYLE

Full-Length Practice Test

SAT MOCK_FOUR - 2026 FORMAT

Plan a complete practice session.

Reading and Writing: 54 questions, 64 minutes

10-minute break

Math: 44 questions, 70 minutes

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GENERAL DIRECTIONS

- Work on only one module at a time. Do not continue to another module until the allotted time has ended.
- Reading and Writing: 2 modules, 27 questions each, 32 minutes per module.
- Break: Take a 10-minute break after Reading and Writing Module 2.
- Math: 2 modules, 22 questions each, 35 minutes per module. A calculator is permitted throughout Math.
- Multiple-choice questions: Select one answer choice. For student-produced response questions, write or enter your answer in the space provided.
- Adaptive-test note: The real digital SAT selects the difficulty of Module 2 based on Module 1 performance. This printable mock uses one fixed Module 2 at a moderately challenging level.
- Scoring: Use the answer key at the end. Official SAT scores are adaptive and equated, so raw scores from this booklet do not convert precisely to a 400-1600 score.

Name: _____ Date: _____

Reading and Writing Answer Sheet

Module 1

- | | | | | |
|----|-----|-----|-----|-----|
| 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) |
| 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 | (A) | (B) | (C) | (D) |
| 14 | (A) | (B) | (C) | (D) |
| 15 | (A) | (B) | (C) | (D) |
| 16 | (A) | (B) | (C) | (D) |
| 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 | (A) | (B) | (C) | (D) |
| 26 | (A) | (B) | (C) | (D) |
| 27 | (A) | (B) | (C) | (D) |

Module 2

- | | | | | |
|----|-----|-----|-----|-----|
| 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) |
| 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 | (A) | (B) | (C) | (D) |
| 14 | (A) | (B) | (C) | (D) |
| 15 | (A) | (B) | (C) | (D) |
| 16 | (A) | (B) | (C) | (D) |
| 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 | (A) | (B) | (C) | (D) |
| 26 | (A) | (B) | (C) | (D) |
| 27 | (A) | (B) | (C) | (D) |

Math Answer Sheet

Module 1

- 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)
- 6

(A)

(B)

(C)

(D)
- 7

(A)

(B)

(C)

(D)
- 8

(A)

(B)

(C)

(D)
- 9

(A)

(B)

(C)

(D)
- 10

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(D)
- 11

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(D)
- 12

(A)

(B)

(C)

(D)
- 13

(A)

(B)

(C)

(D)
- 14

(A)

(B)

(C)

(D)
- 15

(A)

(B)

(C)

(D)
- 16

(A)

(B)

(C)

(D)
- 17

(A)

(B)

(C)

(D)
- 18

Response:
- 19

Response:
- 20

Response:
- 21

Response:
- 22

Response:

Module 2

- 1

(A)

(B)

(C)

(D)
- 2

(A)

(B)

(C)

(D)
- 3

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(B)

(C)

(D)
- 4

(A)

(B)

(C)

(D)
- 5

(A)

(B)

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(D)
- 6

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- 7

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- 11

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- 13

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- 14

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(D)
- 15

(A)

(B)

(C)

(D)
- 16

(A)

(B)

(C)

(D)
- 17

Response:
- 18

Response:
- 19

Response:
- 20

Response:
- 21

Response:
- 22

Response:

Reading and Writing

27 QUESTIONS | 32 MINUTES

The questions in this section address important reading and writing skills. Read each passage and question carefully, and choose the best answer. All questions have four answer choices and one best answer.

1

In the report, the bridge's robust supports remained stable during the earthquake.

As used in the text, "robust" most nearly means

- A) lightweight
- B) recently installed
- C) strong and able to withstand stress
- D) strong and durable

2

In the report, to substantiate the claim, the authors included data from three independent laboratories.

As used in the text, "substantiate" most nearly means

- A) make the result less certain
- B) support with evidence
- C) make more popular
- D) state more cautiously

3

In the report, the review article synthesizes findings from dozens of separate experiments.

As used in the text, "synthesize" most nearly means

- A) combine into a coherent whole
- B) reject as inaccurate
- C) translate into another language
- D) combine into a whole

4

In the report, a shortage of raw materials may constrain production during the winter.

As used in the text, "constrain" most nearly means

- A) limit
- B) make the result less certain
- C) make more predictable
- D) increase sharply

5

Researchers studying shade cloth measured seedling growth. They found that seedlings under partial shade grew taller than those in full sun. The researchers note that the study did not control for every environmental difference.

Which choice best states the main idea of the text?

- A) The authors recommend ending all future research on shade cloth.
- B) The researchers found no relationship involving shade cloth.
- C) The study proves that shade cloth is the only factor affecting seedling growth.
- D) Partial shade may benefit early seedling growth.

6

Researchers studying museum lighting measured visitor attention. They found that visitors spent longer at displays illuminated with moderate rather than very bright light. The team recommends repeating the work in additional locations.

Which choice best states the main idea of the text?

- A) Moderate lighting may support visitor attention better than very bright lighting.
- B) The study proves that museum lighting is the only factor affecting visitor attention.
- C) The authors recommend ending all future research on museum lighting.
- D) The researchers found no relationship involving museum lighting.

7

Researchers studying river barriers measured fish movement. They found that fish crossed low barriers more frequently after openings were added. Because the study was observational, other factors may also have contributed to the pattern.

Which choice best states the main idea of the text?

- A) The authors recommend ending all future research on river barriers.
- B) The study proves that river barriers is the only factor affecting fish movement.
- C) Openings may make low barriers easier for fish to cross.
- D) The researchers found no relationship involving river barriers.

8

Researchers studying community compost measured landfill waste. They found that participating households sent less food waste to landfill. The authors caution that a larger study is needed before drawing a universal conclusion.

Which choice best states the main idea of the text?

- A) The researchers found no relationship involving community compost.
- B) The study proves that community compost is the only factor affecting landfill waste.
- C) Community composting can reduce household food waste sent to landfill.
- D) The authors recommend ending all future research on community compost.

9

Researchers found that a lizard species was active at dawn in open habitats but remained active later in shaded habitats.

Which inference is best supported by the text?

- A) Shade may allow the lizards to remain active later in the day.
- B) The lizards feed only after noon.
- C) The lizards avoid all open habitats.
- D) Dawn temperatures are always lower in shade.

10

A botanist observed that a mountain flower opened earlier on warmer mornings. On cool mornings, the same flowers remained closed until midday. The authors state that further testing would be useful.

Which conclusion is best supported by the text?

- A) The timing of the flower's opening is influenced by morning temperature.
- B) The flower grows only at high elevations.
- C) The flower can open only at midday.
- D) Warm mornings prevent the flower from producing seeds.

11

A study of two bird species found that both ate the same insects in spring. In summer, one species shifted to fruit while the other continued eating insects. The authors state that further testing would be useful.

Which inference is best supported by the text?

- A) Neither species eats insects in summer.
- B) The species live in different habitats.
- C) Fruit is unavailable in spring.
- D) The species' diets overlap more in spring than in summer.

12

A study recorded the following results:

No shade: 54

Partial shade: 66

Full shade: 44

Which choice is best supported by the data?

- A) Partial shade had a lower seedling survival (%) than No shade.
- B) Partial shade had the highest seedling survival (%).
- C) Full shade had the highest seedling survival (%).
- D) No shade and Partial shade had identical seedling survival (%).

13

A study recorded the following results:

Control: 37

Low dose: 48

High dose: 29

Which choice is best supported by the data?

- A) Low dose had a lower average activity score than Control.
- B) High dose had the highest average activity score.
- C) Low dose had the highest average activity score.
- D) Control and Low dose had identical average activity score.

14

A study recorded the following results:

Morning: 44

Afternoon: 56

Evening: 38

Which choice is best supported by the data?

- A) Evening had the highest average visitors.
- B) Morning and Afternoon had identical average visitors.
- C) Afternoon had a lower average visitors than Morning.
- D) Afternoon had the highest average visitors.

15

Walking through the restored garden, ____.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) the visitors noticed several newly planted trees
- B) there were labels beside each plant
- C) the garden's paths appeared unusually wide
- D) several newly planted trees were noticed

16

Each of the sculptures has ____ own protective case.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) its
- B) there
- C) their
- D) it's

17

A collection of early maps ____ stored in the archive's climate-controlled room.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) is
- B) have been
- C) are
- D) were being

18

The two ____ recommendations were included in the final report.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) scientists'
- B) scientists's
- C) scientist's
- D) scientists

19

The first prototype was lightweight and inexpensive. ____ it failed several durability tests.

Which choice completes the text with the most logical transition?

- A) Similarly,
- B) For example,
- C) Therefore,
- D) However,

20

The new coating resisted saltwater corrosion. ____ it cracked after repeated bending.

Which choice completes the text with the most logical transition?

- A) Nevertheless,
- B) Similarly,
- C) Therefore,
- D) For example,

21

The samples were dried overnight. ____ they were weighed and sealed in containers.

Which choice completes the text with the most logical transition?

- A) For instance,
- B) Nevertheless,
- C) Likewise,
- D) Subsequently,

22

A student has taken the following notes:

- The mural covers the entire east wall of the station.
- More than 200 local residents helped paint it.

The student wants to highlight both the mural's large scale and its community involvement.

Which choice most effectively uses information from the notes to accomplish this goal?

- A) The mural covers the entire east wall of the station.
- B) More than 200 local residents helped paint it.
- C) Although the mural covers the entire east wall of the station, no information is available about its later history.
- D) The mural covers the entire east wall of the station, and more than 200 local residents helped paint it.

23

A student has taken the following notes:

- The Northfield Observatory opened in 1912.
- Its original telescope is still used for public viewing nights.

The student wants to emphasize both the observatory's age and the continued use of its original equipment.

Which choice most effectively uses information from the notes to accomplish this goal?

- A) The Northfield Observatory opened in 1912.
- B) Its original telescope is still used for public viewing nights.
- C) Although the northfield observatory opened in 1912, no information is available about its later history.
- D) The Northfield Observatory opened in 1912, and its original telescope is still used for public viewing nights.

24

A student has taken the following notes:

- Composer Eli Moran wrote the suite in 1936.
- The suite was not performed publicly until 1984.

The student wants to stress the long delay between composition and public performance.

Which choice most effectively uses information from the notes to accomplish this goal?

- A) The suite was not performed publicly until 1984.
- B) Composer Eli Moran wrote the suite in 1936, and the suite was not performed publicly until 1984.
- C) Although composer eli moran wrote the suite in 1936, no information is available about its later history.
- D) Composer Eli Moran wrote the suite in 1936.

25

Many city roofs absorb solar energy and become hot. Reflective roof coatings, by contrast, return more sunlight to the atmosphere. In one trial, rooms beneath coated roofs remained several degrees cooler.

The second sentence mainly serves to

- A) define a term used only in the final sentence
- B) provide a historical example unrelated to the trial
- C) question the accuracy of the trial
- D) introduce a contrast that helps explain the trial's result

26

The manuscript contains several erased lines. Modern imaging reveals some of the hidden writing without damaging the page. This technique has allowed scholars to recover portions of an earlier draft.

What is the main function of the second sentence?

- A) It argues that the manuscript should not be studied.
- B) It presents a competing interpretation of the draft.
- C) It describes the manuscript's original owner.
- D) It explains the method that made the recovery possible.

27

The lake's water level varies naturally from year to year. Recently, however, the decline has been unusually rapid. Researchers are studying both reduced rainfall and increased water withdrawals as possible causes.

The word "however" primarily signals that the text is about to

- A) give an example of a normal increase
- B) restate the first sentence in simpler terms
- C) reject both proposed causes
- D) contrast the recent decline with ordinary year-to-year variation

Reading and Writing

27 QUESTIONS | 32 MINUTES

The questions in this section address important reading and writing skills. Read each passage and question carefully, and choose the best answer. All questions have four answer choices and one best answer.

1

In the report, because several members were absent, the board voted to defer the decision until the next meeting.

As used in the text, “defer” most nearly means

- A) make the result less certain
- B) postpone
- C) reverse
- D) announce publicly

2

In the report, the wetland proved resilient, regaining much of its plant diversity after the drought.

As used in the text, “resilient” most nearly means

- A) able to recover
- B) slow to develop
- C) easy to damage
- D) able to recover after difficulty

3

In the report, the clock’s intricate mechanism contains dozens of interlocking gears.

As used in the text, “intricate” most nearly means

- A) having many complex details
- B) designed for outdoor use
- C) having complex details
- D) made from rare materials

4

According to the project summary, the researchers described their conclusion as tentative because the study included only a small number of participants.

As used in the text, “tentative” most nearly means

- A) impossible to revise
- B) carefully hidden
- C) not fully certain
- D) widely accepted

5

Researchers studying language practice measured long-term recall. They found that students who spaced practice over four days remembered more words than students who practiced once. The authors caution that a larger study is needed before drawing a universal conclusion.

Which choice best states the main idea of the text?

- A) The study proves that language practice is the only factor affecting long-term recall.
- B) The authors recommend ending all future research on language practice.
- C) Spacing practice may improve long-term recall.
- D) The researchers found no relationship involving language practice.

6

Researchers studying urban gardens measured pollinator visits. They found that gardens with more flower species attracted more kinds of bees. The researchers note that the study did not control for every environmental difference.

Which choice best states the main idea of the text?

- A) Greater flower diversity may support greater bee diversity.
- B) The study proves that urban gardens is the only factor affecting pollinator visits.
- C) The authors recommend ending all future research on urban gardens.
- D) The researchers found no relationship involving urban gardens.

7

Researchers studying trail signs measured hiker behavior. They found that more hikers stayed on marked paths after new signs were installed. The team recommends repeating the work in additional locations.

Which choice best states the main idea of the text?

- A) The researchers found no relationship involving trail signs.
- B) The study proves that trail signs is the only factor affecting hiker behavior.
- C) The authors recommend ending all future research on trail signs.
- D) Clearer signs may encourage hikers to remain on marked paths.

8

A software team reduced the number of menu options in an app. New users completed a task faster, while experienced users showed little change. The authors state that further testing would be useful.

Which conclusion is best supported by the text?

- A) Experienced users completed the task more slowly.
- B) The app no longer included advanced tools.
- C) Simplifying the menu particularly benefited new users.
- D) New users preferred more menu options.

9

A historian found that merchants used two spellings of the same city's name in letters written during the 1700s. Both spellings appeared in documents from the same decade. The pattern was observed more than once.

Which inference is best supported by the text?

- A) The merchants lived in different countries.
- B) One spelling was used only in legal documents.
- C) The city changed its official name during the decade.
- D) The city's name did not yet have a single standardized spelling.

10

A theater replaced printed programs with a mobile version. Paper use declined, but some audience members requested printed summaries at the entrance. The pattern was observed more than once.

Which conclusion is best supported by the text?

- A) All audience members preferred the mobile program.
- B) The mobile program reduced paper use but did not meet every audience member's preference.
- C) Printed programs were more expensive than tickets.
- D) The mobile program increased ticket sales.

11

A geologist compared two layers of volcanic ash. The layers had nearly identical mineral compositions and were found at sites hundreds of kilometers apart. The pattern was observed more than once.

Which inference is best supported by the text?

- A) The ash layers formed at different times.
- B) The layers may have come from the same large eruption.
- C) The sites were once adjacent.
- D) Mineral composition cannot help identify eruptions.

12

Engineers tested a coating on metal panels. Coated panels corroded more slowly in salt water, but the coating cracked when the panels were repeatedly bent.

Which conclusion is best supported by the text?

- A) The coating may protect rigid metal surfaces better than frequently flexed ones.
- B) The coating completely prevents corrosion.
- C) Bending makes uncoated metal stronger.
- D) Salt water repairs cracks in the coating.

13

A study recorded the following results:

Morning: 65

Afternoon: 75

Evening: 57

Which choice is best supported by the data?

- A) Afternoon had a lower average visitors than Morning.
- B) Afternoon had the highest average visitors.
- C) Evening had the highest average visitors.
- D) Morning and Afternoon had identical average visitors.

14

A study recorded the following results:

No reminder: 46

Email reminder: 57

Text reminder: 42

Which choice is best supported by the data?

- A) Email reminder had a lower appointments kept (%) than No reminder.
- B) Text reminder had the highest appointments kept (%).
- C) Email reminder had the highest appointments kept (%).
- D) No reminder and Email reminder had identical appointments kept (%).

15

A study recorded the following results:

Standard soil: 35

Compost mix: 41

Sand mix: 31

Which choice is best supported by the data?

- A) Compost mix had the highest plant height (cm).
- B) Standard soil and Compost mix had identical plant height (cm).
- C) Compost mix had a lower plant height (cm) than Standard soil.
- D) Sand mix had the highest plant height (cm).

16

The two ____ recommendations were included in the final report.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) scientist's
- B) scientists's
- C) scientists'
- D) scientists

17

The team tested three materials: recycled glass, compressed fiber, ____ a plant-based plastic.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) and
- B) or,
- C) and,
- D) but

18

By the time the research vessel returned to port, the crew ____ more than two hundred water samples.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) is collecting
- B) collects
- C) had collected
- D) will collect

19

The new procedure is faster, less expensive, and ____ than the method it replaced.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) having more reliability
- B) more reliable
- C) reliability is greater
- D) it reliably works

20

The first survey included only coastal sites ____ the second survey also examined inland areas.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) ;
- B) ,
- C) :
- D) [no punctuation]

21

The archive digitized thousands of photographs. ____ it created detailed descriptions for each image.

Which choice completes the text with the most logical transition?

- A) Otherwise,
- B) Moreover,
- C) In contrast,
- D) However,

22

Some desert plants store water in specialized tissues. ____ many cacti retain water in thick stems.

Which choice completes the text with the most logical transition?

- A) Instead,
- B) For example,
- C) Nevertheless,
- D) Consequently,

23

The city added frequent service on the route. ____ average waiting times declined.

Which choice completes the text with the most logical transition?

- A) Meanwhile,
- B) For example,
- C) However,
- D) Therefore,

24

A student has taken the following notes:

- The fossil was discovered in a limestone cave.
- The same species had previously been known only from coastal deposits.

The student wants to emphasize that the discovery expanded the known habitat of the species.

Which choice most effectively uses information from the notes to accomplish this goal?

- A) Although the fossil was discovered in a limestone cave, no information is available about its later history.
- B) The fossil was discovered in a limestone cave, and the same species had previously been known only from coastal deposits.
- C) The fossil was discovered in a limestone cave.
- D) The same species had previously been known only from coastal deposits.

25

A student has taken the following notes:

- The bridge uses timber beams reinforced with steel plates.
- This design reduced both weight and construction cost.

The student wants to explain two advantages of the bridge's hybrid design.

Which choice most effectively uses information from the notes to accomplish this goal?

- A) Although the bridge uses timber beams reinforced with steel plates, no information is available about its later history.
- B) The bridge uses timber beams reinforced with steel plates.
- C) The bridge uses timber beams reinforced with steel plates, and this design reduced both weight and construction cost.
- D) This design reduced both weight and construction cost.

26

The manuscript contains several erased lines. Modern imaging reveals some of the hidden writing without damaging the page. This technique has allowed scholars to recover portions of an earlier draft.

What is the main function of the second sentence?

- A) It argues that the manuscript should not be studied.
- B) It describes the manuscript's original owner.
- C) It explains the method that made the recovery possible.
- D) It presents a competing interpretation of the draft.

27

The lake's water level varies naturally from year to year. Recently, however, the decline has been unusually rapid. Researchers are studying both reduced rainfall and increased water withdrawals as possible causes.

The word "however" primarily signals that the text is about to

- A) reject both proposed causes
- B) contrast the recent decline with ordinary year-to-year variation
- C) restate the first sentence in simpler terms
- D) give an example of a normal increase

10-MINUTE BREAK

Reading and Writing is complete.

Do not begin Math Module 1 until the break is over.

Math

22 QUESTIONS | 35 MINUTES

For multiple-choice questions, choose the best answer. For student-produced response questions, enter your answer in the space provided. A calculator is permitted throughout this section.

1

What is the solution to $5x + 2 = 32$?

- A) -6
- B) 5
- C) 7
- D) 6

2

A bicycle rental shop charges a fixed fee plus an hourly rate.

The fixed fee is \$9, the hourly rate is \$3, and the total charge is \$24. For how many hours was the bicycle rented?

- A) 6
- B) 4
- C) 8
- D) 5

3

What is the slope of the line through $(-1, -3)$ and $(2, -9)$?

- A) -1
- B) 2
- C) -3
- D) -2

4

$$2x + 3y = 24$$

$$4x - y = 6$$

What is the value of $x + y$ for the solution to the system?

- A) 3
- B) 11
- C) 6
- D) 9

5

Which inequality is equivalent to $4x + 7 > 15$?

- A) $x < 2$
- B) $x > 3$
- C) $x > 2$
- D) $x < 3$

6

Which expression is equivalent to $(6^x)(6^3)$?

- A) 6^{x+3}
- B) 6^{3x}
- C) 9^x
- D) 6^{x-3}

7

One solution to $x^2 + 0x - 16 = 0$ is -4. What is the other solution?

- A) -4
- B) 4
- C) -16
- D) 0

8

If $f(x) = 3x - 4$, what is $f(2)$?

- A) 2
- B) 5
- C) 10
- D) 1

9

An item priced at \$240 is discounted by 30%. What is the sale price?

- A) 169
- B) 168
- C) 178
- D) 72

10

A box contains red and blue tiles in a ratio of 3 to 5.
If there are 15 red tiles, how many blue tiles are there?

- A) 40
- B) 20
- C) 22
- D) 25

11

A car travels 165 miles in 3 hours at a constant rate.
What is the rate in miles per hour?

- A) 55
- B) 58
- C) 41
- D) 162

12

The numbers are 13, 5, 12, 5, 35. What is their mean?

- A) 70
- B) 14
- C) 15
- D) 13

13

A bag contains 6 red, 6 blue, and 5 green marbles. One marble is selected at random. What is the probability that it is blue?

- A) $\frac{5}{17}$
- B) $\frac{6}{17}$
- C) $\frac{6}{11}$
- D) $\frac{17}{6}$

14

A trapezoid has parallel sides of lengths 9 and 17 and height 6. What is its area?

- A) 78
- B) 156
- C) 24
- D) 153

15

A circle has radius 6. Which expression gives its circumference?

- A) 12π
- B) 72π
- C) 6π
- D) 36π

16

A right triangle has legs of lengths 5 and 12. What is the length of the hypotenuse?

- A) 17
- B) 13
- C) 14
- D) 12

17

A rectangular prism has length 6, width 3, and height 9.
What is its volume?

- A) 171
- B) 198
- C) 27
- D) 162

18

Solve for x : $4x + 1 = -23$.

Response: _____

19

$$x + y = 16$$

$$x - y = 0$$

What is the value of x ?

Response: _____

20

What is the positive solution to $x^2 = 49$?

Response: _____

21

A quantity of 120 is increased by 25%. What is the amount of the increase?

Response: _____

22

A square has perimeter 28. What is its area?

Response: _____

Math

22 QUESTIONS | 35 MINUTES

For multiple-choice questions, choose the best answer. For student-produced response questions, enter your answer in the space provided. A calculator is permitted throughout this section.

1

$$y = x^2$$

$$y = 2x + 8$$

One intersection has $x = 4$. What is the corresponding y -value?

- A) 24
- B) 16
- C) 4
- D) 8

2

The graph of $y = -1(x - 2)^2 + 3$ has vertex (h, k) . What is the value of h ?

- A) -2
- B) 2
- C) 3
- D) -1

3

A population starts at 120 and is multiplied by 3 each hour. What is the population after 2 hours?

- A) 720
- B) 360
- C) 126
- D) 1080

4

Which expression is a factor of $x^2 - 4x + 4$?

- A) $x - (4)$
- B) $x + (-4)$
- C) $x - (2)$
- D) $x + (4)$

5

What is the solution to $x/(x + 1) = 8/9$?

- A) 8
- B) 7
- C) -8
- D) 9

6

If $f(x) = 3x + 1$ and $g(x) = 3x$, what is $f(g(3))$?

- A) 30
- B) 31
- C) 28
- D) 13

7

Which expression is equivalent to $(x + 5)(x - 3)$?

- A) $x^2 + 2x + 15$
- B) $x^2 + 2x - 15$
- C) $x^2 + 8x - 15$
- D) $x^2 - 8x - 15$

8

The data set is 3, 4, 11, 14, 17, 19, 21. What is the median?

- A) 12
- B) 14
- C) 11
- D) 17

9

A school wants to estimate the proportion of students who use public transit.

Which method is most likely to produce a representative sample?

- A) Survey the first 30 students entering one classroom.
- B) Survey members of the transit club.
- C) Randomly select students from every grade level.
- D) Survey only students waiting at a bus stop.

10

Among 42 students who take art, 13 also take music. If one art student is selected at random, what is the probability that the student also takes music?

- A) $\frac{13}{42}$
- B) $\frac{29}{42}$
- C) $\frac{13}{100}$
- D) $\frac{42}{13}$

11

A price of \$200 is increased by 20% and then decreased by 10%. What is the final price?

- A) 216
- B) 200
- C) 220
- D) 144

12

Two triangles are similar.

A side of length 4 in the smaller triangle corresponds to a side of length 8 in the larger triangle. If another side of the smaller triangle has length 6, what is the corresponding length in the larger triangle?

- A) 8
- B) 10
- C) 3
- D) 12

13

What is the radius of the circle $(x + 5)^2 + (y - 4)^2 = 4$?

- A) 2
- B) 4
- C) 9
- D) 3

14

In right triangle ABC, angle A has opposite side length 3 and hypotenuse 5.

What is $\sin A$?

- A) $\frac{3}{4}$
- B) $\frac{3}{5}$
- C) $\frac{5}{3}$
- D) $\frac{4}{5}$

15

All dimensions of a rectangular prism are multiplied by 3. By what factor is its volume multiplied?

- A) 27
- B) 6
- C) 3
- D) 9

16

What is the midpoint of the segment with endpoints $(-2, -6)$ and $(2, 2)$?

- A) $(0, -2)$
- B) $(1, -2)$
- C) $(0, -1)$
- D) $(4, 8)$

17

The equation $x^2 - 8x + k = 0$ has exactly one solution. What is k ?

Response: _____

18

$$3x + 2y = 35$$

$$5x - y = 41$$

What is the value of y ?

Response: _____

19

If $f(t) = 20(3)^t$, what is $f(5)$?

Response: _____

20

The mean of 6, 18, 9, 5, and x is 13. What is x ?

Response: _____

21

The area of a circle is $k\pi$ and its radius is 4. What is k ?

Response: _____

22

A machine produces 18 parts per hour at a constant rate. How many parts does it produce in 3 hours?

Response: _____

ANSWER KEY

Use this key to check your work. Student-produced responses appear as values rather than letters.

Reading and Writing - Module 1

1	C	10	A	19	D
2	B	11	D	20	A
3	A	12	B	21	D
4	A	13	C	22	D
5	D	14	D	23	D
6	A	15	A	24	B
7	C	16	A	25	D
8	C	17	A	26	D
9	A	18	A	27	D

Reading and Writing - Module 2

1	B	10	B	19	B
2	D	11	B	20	A
3	A	12	A	21	B
4	C	13	B	22	B
5	C	14	C	23	D
6	A	15	A	24	B
7	D	16	C	25	C
8	C	17	A	26	C
9	D	18	C	27	B

ANSWER KEY - MATH

Math - Module 1

- | | | | |
|----|---|----|----|
| 1 | D | 12 | B |
| 2 | D | 13 | B |
| 3 | D | 14 | A |
| 4 | D | 15 | A |
| 5 | C | 16 | B |
| 6 | A | 17 | D |
| 7 | B | 18 | -6 |
| 8 | A | 19 | 8 |
| 9 | B | 20 | 7 |
| 10 | D | 21 | 30 |
| 11 | A | 22 | 49 |

Math - Module 2

- | | | | |
|----|---|----|------|
| 1 | B | 12 | D |
| 2 | B | 13 | A |
| 3 | D | 14 | B |
| 4 | C | 15 | A |
| 5 | A | 16 | A |
| 6 | C | 17 | 16 |
| 7 | B | 18 | 4 |
| 8 | B | 19 | 4860 |
| 9 | C | 20 | 27 |
| 10 | A | 21 | 16 |
| 11 | A | 22 | 54 |