

DIGITAL SAT-STYLE

Full-Length Practice Test

SAT MOCK_THREE - 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

(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

Response:
- 19

Response:
- 20

Response:
- 21

Response:
- 22

Response:

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)

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- 7

(A)

(B)

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- 8

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- 9

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- 11

(A)

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- 12

(A)

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- 13

(A)

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- 14

(A)

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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

The clock's intricate mechanism contains dozens of interlocking gears.

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

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

2

In the report, 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) widely accepted
- B) not fully certain
- C) carefully hidden
- D) impossible to revise

3

In the report, the historian's exhaustive search included local archives, private letters, and court records.

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

- A) make the result less certain
- B) thorough and complete
- C) limited in scope
- D) based on guesses

4

In the report, the bright colors were transient, fading within minutes after the chemical reaction ended.

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

- A) visible from far away
- B) lasting only a short time
- C) lasting briefly
- D) caused by heat

5

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

6

Researchers studying wetland restoration measured bird diversity. They found that restored sites gained species over five years but still had fewer species than undisturbed wetlands. 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 wetland restoration.
- B) The researchers found no relationship involving wetland restoration.
- C) Restoration improved diversity without fully recreating undisturbed conditions.
- D) The study proves that wetland restoration is the only factor affecting bird diversity.

7

Researchers studying coastal dunes measured storm erosion. They found that dunes planted with native grasses lost less sand. 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 authors recommend ending all future research on coastal dunes.
- B) Native grasses may help dunes resist storm erosion.
- C) The study proves that coastal dunes is the only factor affecting storm erosion.
- D) The researchers found no relationship involving coastal dunes.

8

Researchers studying street trees measured surface temperatures. They found that neighborhoods with denser tree cover were cooler in the afternoon. The researchers note that the study did not control for every environmental difference.

Which choice best states the main idea of the text?

- A) Tree cover may help reduce afternoon heat, though other neighborhood features could also matter.
- B) The authors recommend ending all future research on street trees.
- C) The study proves that street trees is the only factor affecting surface temperatures.
- D) The researchers found no relationship involving street trees.

9

A theater replaced printed programs with a mobile version. Paper use declined, but some audience members requested printed summaries at the entrance. The authors state that further testing would be useful.

Which conclusion is best supported by the text?

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

10

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 authors state that further testing would be useful.

Which inference is best supported by the text?

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

11

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. The pattern was observed more than once.

Which conclusion is best supported by the text?

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

12

A study recorded the following results:

Standard soil: 37

Compost mix: 47

Sand mix: 28

Which choice is best supported by the data?

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

13

A study recorded the following results:

No shade: 57

Partial shade: 64

Full shade: 51

Which choice is best supported by the data?

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

14

A study recorded the following results:

Control: 46

Low dose: 58

High dose: 41

Which choice is best supported by the data?

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

15

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) had collected
- C) will collect
- D) collects

16

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

17

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) [no punctuation]
- C) :
- D) ,

18

Walking through the restored garden, ____.

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

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

19

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

Which choice completes the text with the most logical transition?

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

20

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

Which choice completes the text with the most logical transition?

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

21

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

Which choice completes the text with the most logical transition?

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

22

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

23

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

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

25

Some early maps place the island several kilometers too far east. Navigational instruments of the period were less accurate at measuring longitude than latitude. The error therefore reflects a common technical limitation rather than carelessness.

Which choice best describes the organization of the text?

- A) It presents two unrelated discoveries and compares their dates.
- B) It argues for a claim and then withdraws it.
- C) It lists several instruments without explaining their use.
- D) It identifies an error, explains its likely cause, and interprets its significance.

26

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) introduce a contrast that helps explain the trial's result
- C) provide a historical example unrelated to the trial
- D) question the accuracy of the trial

27

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

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 engineer proposed a novel method for storing heat that had not been tested in the region before.

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

- A) dangerous
- B) new and original
- C) old-fashioned
- D) temporary

2

In the report, although she defended the policy overall, the mayor had to concede that its first year had been costly.

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

- A) admit that something is true
- B) deny without evidence
- C) explain in detail
- D) admit reluctantly

3

In the report, it may seem counterintuitive, but adding a small amount of friction can make the device easier to control.

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

- A) difficult to measure
- B) contrary to expectation
- C) contrary to what one might expect
- D) supported by tradition

4

In the report, at low temperatures, the difference between the two measurements was negligible.

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

- A) too small to matter
- B) unexpectedly large
- C) so small as to be unimportant
- D) difficult to calculate

5

Researchers studying coral nurseries measured survival. They found that fragments raised in shaded nurseries survived heat waves more often. 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 researchers found no relationship involving coral nurseries.
- B) The study proves that coral nurseries is the only factor affecting survival.
- C) The authors recommend ending all future research on coral nurseries.
- D) Nursery shading may improve coral survival during heat stress.

6

Researchers studying audio guides measured museum learning. They found that visitors using short audio guides recalled more exhibit details. 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 audio guides.
- B) The authors recommend ending all future research on audio guides.
- C) The study proves that audio guides is the only factor affecting museum learning.
- D) Brief audio guides may improve recall of exhibit information.

7

Researchers studying recycled concrete measured compressive strength. They found that a mixture containing 20 percent recycled aggregate performed nearly as well as the conventional mixture. 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 recycled concrete.
- B) The study proves that recycled concrete is the only factor affecting compressive strength.
- C) The researchers found no relationship involving recycled concrete.
- D) Some recycled aggregate can be used without greatly reducing strength.

8

Researchers found that a lizard species was active at dawn in open habitats but remained active later in shaded habitats. The pattern was observed more than once.

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) Dawn temperatures are always lower in shade.
- D) The lizards avoid all open habitats.

9

A botanist observed that a mountain flower opened earlier on warmer mornings. On cool mornings, the same flowers remained closed until midday.

Which conclusion is best supported by the text?

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

10

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.

Which inference is best supported by the text?

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

11

A software team reduced the number of menu options in an app. New users completed a task faster, while experienced users showed little change.

Which conclusion is best supported by the text?

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

12

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 authors state that further testing would be useful.

Which inference is best supported by the text?

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

13

A study recorded the following results:

Control: 50

Low dose: 63

High dose: 44

Which choice is best supported by the data?

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

14

A study recorded the following results:

Morning: 35

Afternoon: 48

Evening: 26

Which choice is best supported by the data?

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

15

A study recorded the following results:

No reminder: 46

Email reminder: 59

Text reminder: 36

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) No reminder and Email reminder had identical appointments kept (%).
- D) Email reminder had the highest appointments kept (%).

16

Walking through the restored garden, ____.

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

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

17

Each of the sculptures has ____ own protective case.

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

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

18

The set of laboratory samples ____ stored in the archive's climate-controlled room.

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

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

19

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

20

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) but
- D) and

21

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

Which choice completes the text with the most logical transition?

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

22

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

Which choice completes the text with the most logical transition?

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

23

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) Nevertheless,
- C) Consequently,
- D) For example,

24

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

25

A student has taken the following notes:

- The Harbor Reading Room began as a one-room library in 1898.
- It now serves more than 60,000 visitors each year.

The student wants to show how the library has grown over time.

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

- A) Although the harbor reading room began as a one-room library in 1898, no information is available about its later history.
- B) It now serves more than 60,000 visitors each year.
- C) The Harbor Reading Room began as a one-room library in 1898.
- D) The Harbor Reading Room began as a one-room library in 1898, and it now serves more than 60,000 visitors each year.

26

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) question the accuracy of the trial
- C) introduce a contrast that helps explain the trial's result
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27

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.

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

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 $2x - 11 = 9$?

- A) 11
- B) 10
- C) -10
- D) 9

2

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

The fixed fee is \$17, the hourly rate is \$7, and the total charge is \$115. For how many hours was the bicycle rented?

- A) 14
- B) 15
- C) 16
- D) 13

3

What is the slope of the line through (3, 0) and (6, 9)?

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

4

$$2x + 3y = 24$$

$$4x - y = 6$$

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

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

5

Which inequality is equivalent to $3x + 5 > 23$?

- A) $x < 6$
- B) $x > 7$
- C) $x > 6$
- D) $x < 7$

6

Which expression is equivalent to $(2^x)(2^3)$?

- A) 2^{x+3}
- B) 2^{3x}
- C) 5^x
- D) 2^{x-3}

7

One solution to $x^2 - 3x - 40 = 0$ is -5. What is the other solution?

- A) -8
- B) 8
- C) -40
- D) 3

8

If $f(x) = 3x + 0$, what is $f(5)$?

- A) 16
- B) 18
- C) 15
- D) 8

9

An item priced at \$120 is discounted by 25%. What is the sale price?

- A) 91
- B) 100
- C) 30
- D) 90

10

A box contains red and blue tiles in a ratio of 3 to 5. If there are 9 red tiles, how many blue tiles are there?

- A) 14
- B) 24
- C) 15
- D) 12

11

A car travels 90 miles in 2 hours at a constant rate. What is the rate in miles per hour?

- A) 45
- B) 47
- C) 30
- D) 88

12

The numbers are 12, 11, 14, 14, -6. What is their mean?

- A) 45
- B) 10
- C) 9
- D) 8

13

A bag contains 8 red, 4 blue, and 3 green marbles. One marble is selected at random. What is the probability that it is blue?

- A) $\frac{4}{11}$
- B) $\frac{3}{15}$
- C) $\frac{4}{15}$
- D) $\frac{8}{15}$

14

A trapezoid has parallel sides of lengths 8 and 15 and height 6. What is its area?

- A) 21
- B) 138
- C) 120
- D) 69

15

A circle has radius 4. Which expression gives its circumference?

- A) 32π
- B) 8π
- C) 16π
- D) 4π

16

A right triangle has legs of lengths 3 and 4. What is the length of the hypotenuse?

- A) 4
- B) 7
- C) 5
- D) 6

17

A rectangular prism has length 5, width 5, and height 4. What is its volume?

- A) 130
- B) 100
- C) 29
- D) 104

18

Solve for x : $3x - 9 = 27$.

Response: _____

19

$$x + y = 6$$

$$x - y = 0$$

What is the value of x ?

Response: _____

20

What is the positive solution to $x^2 = 64$?

Response: _____

21

A quantity of 120 is increased by 15%. What is the amount of the increase?

Response: _____

22

A square has perimeter 20. 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

$$y = x^2$$

$$y = 2x + 15$$

One intersection has $x = 5$. What is the corresponding y -value?

- A) 40
- B) 5
- C) 10
- D) 25

2

The graph of $y = -1(x + 0)^2 + 4$ has vertex (h, k) . What is the value of h ?

- A) -1
- B) 4
- C) 0
- D) 1

3

A population starts at 120 and is multiplied by 3 each hour. What is the population after 4 hours?

- A) 9720
- B) 3240
- C) 1440
- D) 132

4

Which expression is a factor of $x^2 + 8x + 15$?

- A) $x + (-8)$
- B) $x - (-5)$
- C) $x + (8)$
- D) $x - (15)$

5

What is the solution to $x/(x + 1) = 10/11$?

- A) -10
- B) 9
- C) 10
- D) 11

6

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

- A) 7
- B) 19
- C) 16
- D) 12

7

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

- A) $x^2 + 3x - 18$
- B) $x^2 + 9x - 18$
- C) $x^2 - 9x - 18$
- D) $x^2 + 3x + 18$

8

The data set is 6, 7, 14, 17, 18, 23, 24. What is the median?

- A) 14
- B) 15
- C) 18
- 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 members of the transit club.
- B) Survey the first 30 students entering one classroom.
- C) Survey only students waiting at a bus stop.
- D) Randomly select students from every grade level.

10

Among 43 students who take art, 17 also take music. If one art student is selected at random, what is the probability that the student also takes music?

- A) $17/100$
- B) $26/43$
- C) $17/43$
- D) $43/17$

11

A price of \$400 is increased by 10% and then decreased by 20%. What is the final price?

- A) 400
- B) 352
- C) 360
- D) 288

12

Two triangles are similar.

A side of length 8 in the smaller triangle corresponds to a side of length 24 in the larger triangle. If another side of the smaller triangle has length 10, what is the corresponding length in the larger triangle?

- A) 30
- B) 22
- C) 3.333
- D) 26

13

What is the radius of the circle $(x - 5)^2 + (y + 3)^2 = 4$?

- A) 2
- B) 4
- C) 3
- D) 8

14

In right triangle ABC, angle A has opposite side length 8 and hypotenuse 17.

What is $\sin A$?

- A) $15/17$
- B) $8/17$
- C) $17/8$
- D) $8/15$

15

All dimensions of a rectangular prism are multiplied by 4. By what factor is its volume multiplied?

- A) 4
- B) 64
- C) 8
- D) 16

16

What is the midpoint of the segment with endpoints $(-6, -8)$ and $(8, 6)$?

- A) $(14, 14)$
- B) $(1, 0)$
- C) $(2, -1)$
- D) $(1, -1)$

17

The equation $x^2 - 16x + k = 0$ has exactly one solution. What is k ?

Response: _____

18

$$3x + 2y = 12$$

$$5x - y = 7$$

What is the value of y ?

Response: _____

19

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

Response: _____

20

The mean of 12, 12, 18, 20, and x is 18. 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 15 parts per hour at a constant rate. How many parts does it produce in 6 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	D	10	C	19	C
2	B	11	B	20	D
3	B	12	B	21	B
4	B	13	D	22	C
5	A	14	D	23	B
6	C	15	B	24	C
7	B	16	A	25	D
8	A	17	A	26	B
9	B	18	D	27	B

Reading and Writing - Module 2

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

ANSWER KEY - MATH

Math - Module 1

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

Math - Module 2

- | | | | |
|----|---|----|------|
| 1 | D | 12 | A |
| 2 | C | 13 | A |
| 3 | A | 14 | B |
| 4 | B | 15 | B |
| 5 | C | 16 | D |
| 6 | C | 17 | 64 |
| 7 | A | 18 | 3 |
| 8 | D | 19 | 4860 |
| 9 | D | 20 | 28 |
| 10 | C | 21 | 16 |
| 11 | B | 22 | 90 |