

Digital SAT Practice Test 2

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How to take this test

1. Reading and Writing, Module 1: 27 questions, 32 minutes.
2. Check Module 1 with the answer key at the back. If you got **15 or more** right, take Module 2 (Harder). Otherwise take Module 2 (Easier). 32 minutes.
3. Take a 10-minute break.
4. Math, Module 1: 22 questions, 35 minutes. Use Desmos or any graphing calculator.
5. Check Math Module 1. If you got **12 or more** right, take Math Module 2 (Harder). Otherwise take Module 2 (Easier). 35 minutes.
6. Go to satowl.com/score, choose Practice Test 2, and enter your answers.

Want the computer version? The real SAT is taken in the Bluebook app, so practice on a screen too. SAT Owl's online test at satowl.com/test is timed and adapts automatically, like test day.

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Answer sheet

Circle or write your answers here, then enter them at satowl.com/score. Fill in only the Module 2 you took in each section.

Reading and Writing, 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	

Reading and Writing, Module 2 (Easier)

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	

Reading and Writing, Module 2 (Harder)

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, 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 _____	8 _____
9 _____	10 A B C D	11 A B C D	12 A B C D
13 _____	14 _____	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 _____		

Math, Module 2 (Easier)

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

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15 _____

16 A B C D

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18 A B C D

19 A B C D

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22 _____

Math, Module 2 (Harder)

1 A B C D

2 A B C D

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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 _____

20 _____

21 _____

22 _____

Reading and Writing, Module 1

27 questions
32 minutes

Each question has one or more passages. Read each passage and question carefully, then choose the best answer. Every question has a single best answer.

- 1** Before 1883, towns across the United States set their clocks by the position of the Sun, so noon in one city might be several minutes different from noon in a city just to the west. This system created confusion for railroads, which had to publish schedules listing dozens of local times. In 1883, the railroads adopted standard time zones, giving every town within a zone the same time.

Which choice best states the main purpose of the text?

- A)** To explain why and when standard time zones were adopted in the United States
- B)** To argue that the United States should return to local solar time
- C)** To describe how the Sun's position changes during the day
- D)** To list the cities that first adopted standard time

- 2** The following text is from a 1925 poem by Martha Quincey.

The fog came in at morning
And swallowed up the town;
It hid the church's steeple
And pulled the hilltops down.
By noon the sun had found it
And sent it out to sea,
And there stood every rooftop
As plain as plain could be.

Which choice best describes the overall structure of the text?

- A)** It compares the weather in two different towns.
- B)** It recalls a sea voyage that the speaker once took.
- C)** It describes fog covering a town and then the town becoming visible again as the fog clears.
- D)** It argues that towns should not be built close to the sea.

- 3** Text 1: Some people believe that cracking your knuckles causes arthritis. They argue that the repeated stress on the joints must eventually damage them.

Text 2: Several studies have compared people who regularly crack their knuckles with people who do not, and they found no difference in rates of arthritis between the two groups. One doctor even cracked the knuckles of only one hand for sixty years and found no arthritis in either hand.

Based on the texts, how would the author of Text 2 most likely respond to the belief described in Text 1?

- A) By agreeing that knuckle cracking damages the joints over time
 - B) By pointing out that research has not found a link between knuckle cracking and arthritis
 - C) By claiming that knuckle cracking prevents arthritis
 - D) By arguing that arthritis is caused mainly by aging
-

- 4** Engineers designing earthquake-resistant buildings often borrow ideas from nature. One example comes from bamboo. Its stalks are hollow but divided at intervals by solid walls called nodes, which keep the stalk from buckling when it bends in strong winds. Inspired by this design, some engineers have built tall concrete columns with reinforcing rings spaced along their length, allowing the columns to flex during an earthquake without collapsing.

Which choice best states the main purpose of the text?

- A) To argue that bamboo is a stronger building material than concrete
 - B) To explain why earthquakes damage tall buildings more than short ones
 - C) To present an example of how a feature of a plant has influenced building design
 - D) To describe the process by which bamboo stalks grow nodes
-

- 5** The following text is from an 1894 novel by Edmund Harrow. Miss Lydgate has just received a letter.

Miss Lydgate read the letter through without a word and folded it neatly into her pocket. She returned to her embroidery and asked her sister about the weather. Only her hands betrayed her: the needle, which had moved so steadily all morning, now trembled, and twice she had to unpick a stitch.

As used in the text, what does the word "betrayed" most nearly mean?

- A) deceived
 - B) revealed
 - C) abandoned
 - D) endangered
-

6 Economists often assume that people make better choices when they have more options. A study of online movie viewers by behavioral economist Lena Strand complicates this picture. When a streaming service showed users 40 recommended films, they browsed longer but were more likely to log off without watching anything than when it showed only 8. Strand suggests that a long list of options can overwhelm viewers and lead them to avoid choosing at all.

Which choice best describes the function of the second sentence in the overall structure of the text?

- A)** It introduces research that challenges the assumption described in the first sentence.
 - B)** It gives a specific example that supports the assumption described in the first sentence.
 - C)** It presents a conclusion that the rest of the text goes on to reject.
 - D)** It describes a research method that Strand's study failed to use.
-

7 Economists have traditionally treated a country's gross domestic product, or GDP, as the principal measure of its prosperity. Yet GDP counts only goods and services that are bought and sold, so it leaves out unpaid work such as caring for children or elderly relatives. Economist Nadia Farouk estimates that if such work were valued at the wages paid to professional caregivers, it would equal roughly a fifth of GDP in several countries she studied. Farouk does not propose abandoning GDP; she argues instead that it should be supplemented by measures that capture this hidden labor.

Which choice best describes the overall structure of the text?

- A)** It describes a new economic measure, explains how it was developed, and argues that it should replace GDP.
 - B)** It presents two competing definitions of prosperity and explains why economists have rejected both.
 - C)** It identifies a limitation of a widely used measure, estimates the size of what that measure leaves out, and presents a researcher's proposal for addressing the limitation.
 - D)** It traces the history of GDP and describes how the measure has changed over time.
-

8 Although the physicist's theory was initially greeted with skepticism, later experiments have done much to _____ it. Each new measurement has fallen within the range her equations predicted, leaving critics with fewer and fewer grounds for doubt.

Which choice completes the text with the most logical and precise word or phrase?

- A)** vindicate
 - B)** undermine
 - C)** obscure
 - D)** anticipate
-

- 9** Until 1960, many scientists believed that only humans used tools. That year, researcher Jane Goodall watched a chimpanzee in what is now Tanzania strip the leaves from a twig and poke it into a termite mound to fish out termites. Her observation showed that chimpanzees not only use tools but also make them, and it forced scientists to reconsider what makes humans unique.

Which choice best states the main idea of the text?

- A)** Chimpanzees in Tanzania eat termites and almost nothing else.
 - B)** Goodall was the first scientist to study animals in Africa.
 - C)** Goodall's observation of a chimpanzee making and using a tool challenged a long-held belief about humans.
 - D)** Scientists in 1960 proved that humans are the only animals that use tools.
-

- 10** The following text is from a 1910 novel by Agnes Whitcombe. Lucy is traveling by coach to the coast.

Lucy had heard about the sea all her life, from her uncle's stories and from the pictures in her schoolbooks. None of it had prepared her. When the coach reached the top of the hill and the water appeared, gray-green and moving and without any end, she forgot to speak. She only gripped the edge of the seat and stared, as though the sea might vanish if she looked away for even a moment.

Which choice best states the main idea of the text?

- A)** Lucy is frightened that the coach will tip over at the top of the hill.
 - B)** Lucy is overwhelmed by her first sight of the sea, which goes beyond anything she had imagined.
 - C)** Lucy is disappointed that the sea looks different from the pictures in her schoolbooks.
 - D)** Lucy regrets that she did not pay closer attention to her uncle's stories.
-

- 11** Saguaro cacti, which grow in the Sonoran Desert, can store large amounts of water. Their trunks have pleats, like the folds of an accordion, that expand when the plant absorbs water after a rain and shrink as the stored water is used up. Because of this, a large saguaro can survive many months without rainfall.

According to the text, what is the function of the pleats on a saguaro's trunk?

- A)** They protect the cactus from animals that try to eat it.
 - B)** They help the cactus absorb more sunlight.
 - C)** They produce the cactus's flowers.
 - D)** They allow the trunk to expand and shrink as the plant's water supply changes.
-

- 12** The following text is from a 1911 novel by Edith Marlowe. Hester has returned to the village where she grew up.

Hester walked the length of the high street twice before she admitted that she was looking for something that was no longer there. The baker's window still held its loaves, and the church clock still ran four minutes slow, as it always had. Yet the faces in the doorways were strangers' faces, and none of them turned at her step. She had kept the village in her mind like a pressed flower, and now she found that the living thing had gone on growing without her.

Which choice best states the main idea of the text?

- A) Hester is relieved that the village has stayed exactly as she remembered it.
 - B) Hester realizes that the village has changed in ways her memory did not account for.
 - C) Hester is angry that the villagers deliberately refuse to greet her.
 - D) Hester decides to leave the village because she no longer recognizes the bakery.
-

- 13** Chemists testing a new catalyst for producing hydrogen fuel found that it worked efficiently in laboratory trials lasting a few hours. In trials lasting several weeks, however, its efficiency fell sharply, and microscope images showed that tiny particles of the catalyst had clumped together, reducing the surface area available for reactions. Because the catalyst's activity depends on that surface area, the chemists concluded that _____

Which choice most logically completes the text?

- A) the drop in efficiency was likely caused by the particles' clumping.
 - B) clumping occurs in every catalyst used to produce hydrogen.
 - C) the catalyst lost efficiency because its particles were too small at the start.
 - D) making the particles even smaller would prevent them from clumping.
-

- 14** Many plants produce caffeine in their leaves and seeds, where it is toxic to insects that try to eat them. Some plants, including certain citrus and coffee species, also produce small amounts of caffeine in their nectar. Researchers found that bees that fed on caffeinated nectar were more likely to remember a flower's scent and return to it than bees that fed on nectar without caffeine. The caffeine in the nectar was far too dilute to harm the bees. These findings suggest that the caffeine in nectar _____

Which choice most logically completes the text?

- A) protects the plants' nectar from being consumed by bees.
 - B) is produced only by plants that are not pollinated by insects.
 - C) impairs bees' memory when they consume large amounts of it.
 - D) may benefit the plants by encouraging bees to return rather than by driving them away.
-

- 15** Art historians often describe Impressionism as a revolt against the French Academy, the official institution that controlled major exhibitions in nineteenth-century Paris. Historian Colette Marchand offers a more complicated account. She notes that several leading Impressionists trained under academic painters, continued to submit work to the Academy's official Salon for years, and borrowed its techniques even while rejecting its preferred subjects. For Marchand, the movement's relationship to the Academy is better described as a negotiation than as a clean break.

Which choice best states the main idea of the text?

- A)** Marchand argues that the Impressionists had no real disagreements with the Academy.
 - B)** Marchand claims that the Academy secretly encouraged the Impressionist movement.
 - C)** Marchand contends that the Impressionists' relationship with the Academy involved both rejection and continued engagement.
 - D)** Marchand shows that the Impressionists won more prizes at the Salon than academic painters did.
-

- 16** The James Webb Space Telescope was launched on December 25, 2021. About a month later, it _____ its destination, a point in space roughly 1.5 million kilometers from Earth.

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

- A)** reaches
 - B)** reached
 - C)** will reach
 - D)** has reached
-

- 17** Octopuses are masters of disguise. Using specialized cells and muscles, they can change the color and texture of _____ skin in a fraction of a second.

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

- A)** their
 - B)** its
 - C)** they're
 - D)** there
-

18 On July 20, 1969, the Apollo 11 lunar module landed on the Moon's Sea of Tranquility. A few hours later, Neil Armstrong and Buzz Aldrin _____ the first humans to walk on the lunar surface.

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

- A) became
 - B) become
 - C) will become
 - D) are becoming
-

19 Bioluminescent dinoflagellates, tiny marine organisms, give off light only when they are _____ the glowing blue waves seen on some beaches at night appear only where the water is being churned by breaking surf, swimmers, or boats.

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

- A) disturbed
 - B) disturbed,
 - C) disturbed, so
 - D) disturbed so,
-

20 The small, shrimp-like crustaceans known as krill, which feed on phytoplankton in the cold waters around Antarctica, _____ a primary food source for many whales, seals, and penguins.

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

- A) are
 - B) is
 - C) has been
 - D) was
-

21 The bristlecone pines of California's White Mountains, some of which have been growing for nearly 5,000 years, _____ among the oldest known living organisms on Earth.

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

- A) being
 - B) which are
 - C) having been
 - D) are
-

- 22** Most desert plants survive dry periods by storing water in their tissues or by growing deep roots. The resurrection plant _____ survives by drying out almost completely and then reviving within hours of a rainfall.

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

- A) , however,
- B) however
- C) , however;
- D) ; however,

-
- 23** Many traditional musical instruments are made from materials found in their makers' local environment. _____ the mbira, a traditional instrument of the Shona people of Zimbabwe, consists of metal keys mounted on a wooden board, often placed inside a hollow gourd that amplifies its sound.

Which choice completes the text with the most logical transition?

- A) For example,
- B) However,
- C) Thus,
- D) Still,

-
- 24** In 1903, Marie Curie shared the Nobel Prize in Physics with Pierre Curie and Henri Becquerel for their research on radioactivity. _____ in 1911, she received a second Nobel Prize, this time in Chemistry, for her discovery of the elements polonium and radium.

Which choice completes the text with the most logical transition?

- A) Earlier,
 - B) Instead,
 - C) For example,
 - D) Later,
-

- 25** Composer Florence Price drew on several musical traditions in her work. In her Symphony No. 1 in E Minor, which in 1933 became the first symphony by a Black woman to be performed by a major American orchestra, she combined the structure of a European symphony with elements of African American music. _____ the symphony's third movement is a juba dance, a style rooted in rhythms brought to the Americas by enslaved Africans.

Which choice completes the text with the most logical transition?

- A) For instance,
- B) Nevertheless,
- C) Instead,
- D) Previously,

- 26** Mangrove trees grow along tropical coastlines, where their dense, tangled roots slow incoming waves and trap sediment. _____ coastal communities in countries such as Indonesia and Bangladesh have planted mangroves to protect their shores against storm surges and erosion.

Which choice completes the text with the most logical transition?

- A) In contrast,
- B) Nevertheless,
- C) For this reason,
- D) Similarly,

- 27** While researching a topic, a student has taken the following notes:

- The Voynich manuscript is a handwritten, illustrated book.
- Radiocarbon dating places its vellum pages in the early 1400s.
- It is written in an unknown script that no one has deciphered.
- It contains drawings of plants, many of which have never been identified.
- It is named after Wilfrid Voynich, a book dealer who acquired it in 1912.

The student wants to introduce the Voynich manuscript to an audience unfamiliar with it. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A) Radiocarbon dating places the Voynich manuscript's vellum in the early 1400s.
- B) The book dealer Wilfrid Voynich acquired the manuscript in 1912.
- C) The manuscript's script has never been deciphered, and many of its plant drawings remain unidentified.
- D) The Voynich manuscript, a handwritten book dating to the early 1400s, is written in a script that no one has deciphered.

STOP. If you finish before time is up, check your work on this module only.

Reading and Writing, Module 2 (Easier)

27 questions
32 minutes

Each question has one or more passages. Read each passage and question carefully, then choose the best answer. Every question has a single best answer.

- 1** Mount Everest's height is not fixed. The collision of the Indian and Eurasian tectonic plates continues to push the Himalayas upward, so the mountain _____ by a few millimeters each year, even as erosion wears away at its surface.

Which choice completes the text with the most logical and precise word or phrase?

- A) shrinks
- B) rises
- C) wanders
- D) freezes

- 2** In early 1915, explorer Ernest Shackleton's ship *Endurance* became trapped in the sea ice of Antarctica's Weddell Sea. For months, the crew lived aboard as the ice slowly crushed the hull. After the ship sank, the men camped on drifting ice floes and then sailed small lifeboats to remote Elephant Island. Remarkably, every member of the ship's crew survived.

Which choice best describes the function of the last sentence in the overall structure of the text?

- A) It explains why the ship became trapped in the ice.
- B) It introduces a new expedition that the text goes on to describe.
- C) It questions the accuracy of the account in the previous sentences.
- D) It states a surprising outcome of the events described earlier in the text.

- 3** The following text is from a 1915 poem by Ellis Marsh.

The river does not hurry, yet it reaches
The distant sea in time;
It wears the hardest stone to rounded pebble
With nothing but its long and steady line.
So let me, too, not rush at what I'm after,
But keep my course, and trust the slow design.

Which choice best describes the overall structure of the text?

- A) The speaker describes a quality of a river and then applies that quality to the speaker's own life.
- B) The speaker contrasts a fast river with a slow one and then chooses between them.
- C) The speaker recalls a journey to the sea and then expresses regret about it.
- D) The speaker praises a stone's hardness and then questions the river's power.

- 4** Many people believe that bats are blind, but this is a myth. All bat species can see, and some fruit bats have excellent vision that they use to find food. Many bats also use echolocation, producing high-pitched sounds and listening for the echoes to locate insects in the dark. For these bats, echolocation adds to their senses rather than replacing sight.

Which choice best states the main purpose of the text?

- A)** To explain how fruit bats decide which fruits to eat
 - B)** To correct a common misconception about bats
 - C)** To argue that echolocation is more useful than vision
 - D)** To describe how bats evolved the ability to fly
-

- 5** Cats are often thought of as solitary animals, but feral cats living in groups can be surprisingly _____. Females in a colony frequently nurse and groom one another's kittens and take turns guarding the nest.

Which choice completes the text with the most logical and precise word or phrase?

- A)** cooperative
 - B)** aggressive
 - C)** timid
 - D)** nocturnal
-

- 6** Lichens look like single organisms, but each is actually a partnership between a fungus and an alga or a bacterium. The fungus provides structure and protection, while its partner produces food through photosynthesis. More recently, scientists discovered that many lichens include a third partner, a type of yeast embedded in the lichen's outer layer. This finding suggests that the partnerships within lichens may be more complex than biologists had long assumed.

Which choice best describes the function of the third sentence in the overall structure of the text?

- A)** It explains how the fungus and its partner share food.
 - B)** It provides an example of a lichen that lacks a fungus.
 - C)** It questions whether lichens actually perform photosynthesis.
 - D)** It reports a discovery that complicates the description of lichens given earlier in the text.
-

- 7** Text 1: Many urban planners favor building tall apartment towers to increase housing density. Towers, they argue, house large numbers of people on small plots of land, leaving more space for parks.

Text 2: Architect Henrik Lund points out that cities such as Paris reach some of the highest population densities in Europe with buildings of only six or seven stories, set close together along the street. Such mid-rise neighborhoods, he argues, can house as many people as towers do while keeping residents close to street life.

Based on the texts, how would Lund most likely respond to the planners' argument in Text 1?

- A) By arguing that cities should not set aside land for parks
 - B) By suggesting that tall towers are not the only way to achieve high housing density
 - C) By agreeing that tall towers are necessary for high density
 - D) By claiming that Paris has a low population density
-

- 8** The following text is from a 1916 novel by Winifred Lowe.

For years the townspeople had called the Pruitt sisters proud. They did not attend the church suppers, they did not join the sewing circle, and they answered every invitation with a brief, polite refusal. Only after the elder sister died, and the doctor let slip what he knew, did the town learn the truth: the younger Miss Pruitt had been nursing her sister through a long illness, and the two of them had kept it secret rather than accept anyone's pity.

Which choice best describes the overall structure of the text?

- A) It describes a quarrel between two sisters and then explains how they settled it.
 - B) It explains why a doctor decided to break a promise to his patient.
 - C) It contrasts the personalities of two sisters who live together.
 - D) It presents the town's explanation for two women's behavior and then reveals the actual reason for that behavior.
-

- 9** Glass frogs of Central and South America have translucent skin on their bellies, so their hearts and other organs are visible from below. When a glass frog rests on a leaf, light passes through its body, and its outline becomes hard to see against the green leaf behind it. Biologists therefore think that this translucency _____

Which choice most logically completes the text?

- A) allows the frogs to digest food more quickly.
 - B) makes the frogs easier for potential mates to find.
 - C) causes the frogs to lose body heat rapidly.
 - D) helps the frogs avoid being spotted by predators.
-

- 10** Hydrothermal vents are openings in the ocean floor where water heated by volcanic activity escapes. Although no sunlight reaches these depths, the vents support thriving communities of tube worms, clams, and shrimp. These animals depend on bacteria that make food from chemicals in the vent water rather than from sunlight, as plants do.

According to the text, what is the main source of food for the animal communities around hydrothermal vents?

- A)** Plants that grow near the vents
 - B)** Bacteria that make food from chemicals in the vent water
 - C)** Sunlight that reaches the ocean floor
 - D)** Small fish that swim down from the surface
-

- 11** Sea otters eat large numbers of sea urchins, which feed on kelp. Where sea otters were hunted nearly to extinction in the nineteenth century, urchin populations exploded and many kelp forests disappeared. In areas where otters have since returned, -----

Which choice most logically completes the text?

- A)** kelp forests have disappeared even faster than before.
 - B)** kelp forests have often begun to recover as urchin numbers decline.
 - C)** sea urchins have begun to prey on sea otters.
 - D)** otters have stopped eating sea urchins.
-

- 12** Most spiders spin webs to catch insects, but jumping spiders take a different approach. They have unusually sharp eyesight, with two large front eyes that can detect fine detail. Instead of waiting for prey to become trapped, a jumping spider watches an insect closely, creeps toward it, and then leaps onto it from several body lengths away.

According to the text, how do jumping spiders catch their prey?

- A)** They track prey by sight and then leap onto it.
 - B)** They spin large webs and wait for insects to become trapped.
 - C)** They hide in burrows until insects walk past.
 - D)** They release scents that draw insects toward them.
-

- 13** Historians studying letters written by soldiers during the American Civil War have noted that many letters from 1861 express enthusiasm and confidence that the war would end quickly. Letters written by the same soldiers in 1864 more often describe exhaustion and longing for home, and some soldiers wrote that they no longer expected to see the war's end. Taken together, these letters suggest that _____

Which choice most logically completes the text?

- A) soldiers' attitudes toward the war changed considerably as the conflict went on.
 - B) soldiers stopped writing letters home after 1864.
 - C) most soldiers were eager to reenlist in 1864.
 - D) soldiers in 1861 wrote longer letters than soldiers in 1864 did.
-

- 14** In the 1897 novel *The Harbor Light* by Margaret Ellery, the narrator portrays Captain Hale as a man whose outward calm hides deep anxiety. This contrast is evident when the narrator says, _____

Which quotation from *The Harbor Light* most effectively illustrates the claim?

- A) "He was a tall man, broad in the shoulder, with a beard gone gray before its time."
 - B) "The crew trusted him completely, for he had brought them safely through a dozen storms."
 - C) "He spoke to the crew in the same even tone he used for everything, yet each night he walked the deck until dawn, unable to rest while the barometer fell."
 - D) "When the gale struck, he shouted orders over the wind and lashed himself to the wheel."
-

- 15** In the 1850s, many American newspapers began printing the latest prices of cotton, wheat, and other goods in distant markets, information that now arrived by telegraph within hours. Before the telegraph, merchants could profit by buying goods cheaply in one city and selling them at higher prices in another, since few people knew how much prices differed. Historian Joan Ebbett found that in the decade after telegraph lines linked major cities, price differences for the same goods between those cities shrank considerably. Ebbett's finding suggests that _____

Which choice most logically completes the text?

- A) newspapers stopped printing prices once telegraph lines were built.
 - B) the prices of cotton and wheat rose steadily throughout the 1850s.
 - C) merchants abandoned trade between cities entirely after the telegraph arrived.
 - D) the telegraph made it harder for merchants to profit from price differences between cities.
-

- 16** The Okavango River in southern Africa never reaches the sea. Instead, _____ waters spread out across a vast inland delta in Botswana, where most of the water evaporates or soaks into the sand of the Kalahari Desert.

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

- A) it's
 - B) their
 - C) its
 - D) they're
-

- 17** Antarctica's McMurdo Dry Valleys are among the driest places on Earth. Powerful winds sweep moisture out of the _____ as a result, the valleys have remained largely free of ice and snow for millions of years.

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

- A) valleys;
 - B) valleys,
 - C) valleys
 - D) valleys that
-

- 18** Archaeologists studying ancient stone _____ in Britain and Ireland have found that many of them were aligned with the sunrise or sunset on the summer or winter solstice.

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

- A) monument's
 - B) monuments'
 - C) monument's,
 - D) monuments
-

- 19** The cheetah is the fastest land animal on Earth, built for short bursts of speed rather than long chases. Over short distances, _____ top speed can exceed 100 kilometers per hour.

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

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

- 20** The ginkgo is one of the oldest tree species on Earth, with fossils dating back more than 200 million years. Its fan-shaped leaves _____ a bright golden yellow every autumn.

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

- A) turns
- B) has turned
- C) is turning
- D) turn

- 21** Male humpback whales sing long, complex songs that can be heard for many kilometers underwater. Since the 1970s, researchers _____ thousands of hours of these songs, revealing that the songs within a population change gradually from year to year.

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

- A) record
- B) will record
- C) have recorded
- D) are recording

- 22** The photograph Earthrise, taken by astronaut William Anders during the Apollo 8 mission in _____ shows a blue-and-white Earth rising above the Moon's gray, barren horizon.

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

- A) 1968
- B) 1968;
- C) 1968—
- D) 1968,

- 23** While researching a topic, a student has taken the following notes:

- The axolotl is a salamander native to lakes near Mexico City.
- Unlike most salamanders, axolotls typically remain aquatic their entire lives.
- Axolotls can regenerate lost limbs, parts of their spinal cord, and even parts of their heart.
- Wild axolotl populations are critically endangered.

The student wants to emphasize the axolotl's ability to regrow body parts. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A) The axolotl, a salamander native to lakes near Mexico City, is critically endangered in the wild.
- B) Unlike most salamanders, the axolotl typically remains aquatic throughout its life.
- C) The axolotl can regrow lost limbs, parts of its spinal cord, and even parts of its heart.
- D) The axolotl is a salamander that lives in lakes near Mexico City.

24

While researching a topic, a student has taken the following notes:

- Europa is a moon of Jupiter with a diameter of about 3,100 kilometers.
- Enceladus is a moon of Saturn with a diameter of about 500 kilometers.
- Both moons are thought to have oceans of liquid water beneath their icy surfaces.
- The Cassini spacecraft observed plumes of water vapor spraying from Enceladus.

The student wants to emphasize a similarity between Europa and Enceladus. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A) Europa orbits Jupiter, while Enceladus orbits Saturn.
 - B) The Cassini spacecraft observed plumes of water vapor spraying from Enceladus.
 - C) Europa, at about 3,100 kilometers across, is much larger than Enceladus.
 - D) Both Europa and Enceladus are thought to have oceans of liquid water beneath their icy surfaces.
-

25

While researching a topic, a student has taken the following notes:

- For centuries, dyes were made from natural sources.
- Tyrian purple was made from a secretion produced by certain sea snails.
- Thousands of snails were needed to dye a single garment.
- Indigo, a blue dye, was made from the leaves of plants in the genus *Indigofera*.
- In 1856, William Henry Perkin created mauveine, one of the first synthetic dyes.

The student wants to explain why Tyrian purple was so expensive. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A) Because thousands of sea snails were needed to dye a single garment, Tyrian purple was extremely expensive.
 - B) Tyrian purple was made from sea snails, while indigo was made from plants.
 - C) In 1856, William Henry Perkin created mauveine, one of the first synthetic dyes.
 - D) Tyrian purple was an expensive dye made from natural sources.
-

26

In many bird species, males are more colorful than females, a pattern scientists often attribute to females choosing mates with brighter feathers. Among the shorebirds known as phalaropes, _____ females are more brightly colored than males and compete with one another for mates, while males incubate the eggs and raise the chicks.

Which choice completes the text with the most logical transition?

- A) for example
 - B) therefore
 - C) by contrast
 - D) in addition
-

27 Because light travels at a finite speed, the light we see from distant objects left those objects long ago. Light from the Andromeda Galaxy, for instance, takes about 2.5 million years to reach Earth. _____ when astronomers observe Andromeda, they see the galaxy as it appeared roughly 2.5 million years ago, not as it is today.

Which choice completes the text with the most logical transition?

- A) However,
- B) Similarly,
- C) Meanwhile,
- D) Therefore,

STOP. If you finish before time is up, check your work on this module only.

Reading and Writing, Module 2 (Harder)

27 questions
32 minutes

Each question has one or more passages. Read each passage and question carefully, then choose the best answer. Every question has a single best answer.

- 1** Medical researchers are testing whether a new drug can arrest the progression of macular degeneration, an eye disease that gradually destroys central vision. The drug does not repair damage that has already occurred, but in early trials, patients who took it lost vision far more slowly than patients who received a placebo.

As used in the text, what does the word "arrest" most nearly mean?

- A) seize
- B) stop
- C) detain
- D) notice

- 2** The following text is from a 1905 novel by Theodora Quill.

Mr. Lamb was not a man to make a scene. When the waiter brought him the wrong dish for the second time, he merely regarded it for a moment, then took up his fork with an air of quiet resignation, as one who has learned that the world will not be _____ by complaint.

Which choice completes the text with the most logical and precise word or phrase?

- A) damaged
- B) noticed
- C) improved
- D) overwhelmed

- 3** The following text is from a 1913 novel by Evelyn Strobe. The Ashworth family has inherited a neglected house.

The old house had stood empty for years, and the townspeople spoke of it in lowered voices. When the Ashworths arrived, they found the garden overgrown and the shutters hanging loose. Mrs. Ashworth, undaunted, rolled up her sleeves on the first morning and set about making the place fit to live in, declaring that no house was so far gone that patience could not recover it.

As used in the text, what does the word "recover" most nearly mean?

- A) retrieve
- B) cover again
- C) restore
- D) compensate

4 Text 1: Political scientists have traditionally explained low voter turnout as a sign of apathy. Citizens who do not vote, the reasoning goes, simply do not care much about politics. Efforts to raise turnout, from this view, must begin by persuading people that elections matter.

Text 2: Surveys by political scientist Ruth Adeyemi suggest that many nonvoters follow political news closely and hold strong opinions. What separates them from voters, she finds, is more often practical difficulty: inflexible work schedules, distant polling places, or confusing registration rules. In states that adopted automatic registration and expanded early voting, turnout rose noticeably among these groups.

Based on the texts, how would Adeyemi most likely respond to the strategy for raising turnout described in Text 1?

- A)** She would argue that the strategy should be abandoned because apathy plays no role at all in low turnout.
- B)** She would suggest that the strategy would succeed if polling places simply stayed open longer.
- C)** She would argue that the strategy may be misdirected for many nonvoters, who often care about politics but face obstacles to voting.
- D)** She would agree with the strategy but recommend that it focus on nonvoters who follow political news.

5 Biologists have long known that some trees release chemical signals when insects attack their leaves, and nearby trees that detect these chemicals often begin producing defensive compounds before any insects arrive. Such observations have led some writers to describe forests as communities of trees that "warn" and "help" one another. Ecologist Martin Haugen cautions against this language. A tree releasing chemicals may simply be signaling to its own distant branches, he notes, and neighbors that detect the signal are eavesdropping rather than being deliberately warned.

Which choice best describes the function of the second sentence ("Such observations . . . one another") in the overall structure of the text?

- A)** It offers Haugen's own explanation for why trees release chemical signals.
 - B)** It provides experimental evidence that trees communicate deliberately.
 - C)** It summarizes a view that both the writers and Haugen accept.
 - D)** It presents an interpretation of the findings that Haugen goes on to challenge.
-

- 6** Scholars have long credited the printing press with the rapid spread of Protestant ideas in sixteenth-century Germany. Historian Anke Reiter accepts that printed pamphlets mattered, but she points to evidence that many of them were never read silently by individuals. Town records describe pamphlets being read aloud in taverns and marketplaces to crowds who mostly could not read. In Reiter's view, the press succeeded not by replacing speech but by supplying it with material.

Which choice best describes the function of the third sentence in the overall structure of the text?

- A)** It presents a counterexample that Reiter uses to reject the importance of printed pamphlets.
 - B)** It provides evidence for Reiter's claim that pamphlets often reached audiences through oral reading.
 - C)** It describes a common view that Reiter attempts to refute in the final sentence.
 - D)** It summarizes the scholarly agreement that Reiter goes on to qualify.
-

- 7** Some astronomers have explained the unusually tilted orbits of certain distant objects in the outer solar system by proposing an undiscovered ninth planet whose gravity pulled them out of line. Astrophysicist Tomasz Brecht offers a different account. In computer simulations, he found that the combined gravity of many small icy bodies, each too faint to detect, could produce the same tilts without any large planet. Brecht acknowledges that his model does not rule out a ninth planet, but he notes that it requires fewer untested assumptions about the solar system's history.

Which choice best describes the overall structure of the text?

- A)** It presents a widely accepted explanation and then reports evidence that definitively disproves it.
 - B)** It explains how a planet was discovered and then describes objections to that discovery.
 - C)** It presents one explanation for a phenomenon and then outlines an alternative explanation, noting both a limitation and an advantage of the alternative.
 - D)** It compares two computer simulations and concludes that both support the same explanation.
-

8 Text 1: Scholars have generally treated the poems of Adela Voss (1868-1931) as intensely private works. Voss rarely published during her lifetime, and her poems, full of closed rooms and drawn curtains, seem to turn away from public life. To read them as commentary on the politics of her era, these scholars argue, is to impose concerns the poet did not share.

Text 2: Voss's letters reveal that she followed newspaper coverage of labor strikes closely and discussed them with her brother, a union organizer. Read alongside these letters, the closed rooms in her poems look less like retreats from the world than like images of confinement, the same confinement Voss described when writing about factory workers. Her poems are private in form, perhaps, but not in their concerns.

Based on the texts, how would the author of Text 2 most likely respond to the scholars' view described in Text 1?

- A)** By agreeing that Voss's images of closed rooms reflect her wish to withdraw from public affairs
- B)** By arguing that Voss published far more poems during her lifetime than the scholars realize
- C)** By asserting that Voss's poems should be read mainly as accounts of her brother's career
- D)** By contending that evidence outside the poems suggests that Voss's imagery may engage with political issues of her time

9

City	Bike-share stations	Annual trips (millions)
Alton	120	1.8
Brisco	340	2.1
Corwin	95	2.6
Dunmore	210	0.9

An urban planner studying bike-share programs in four cities argues that the number of stations a city installs does not, by itself, determine how heavily its program is used. As evidence, she points out that _____

Which choice most effectively uses data from the table to support the planner's argument?

- A)** Corwin had the fewest stations of the four cities but the most annual trips.
- B)** Brisco had the most stations of the four cities and more annual trips than Alton.
- C)** Dunmore had more stations than Alton did.
- D)** Alton and Corwin had a combined total of 215 stations.

- 10** In many species of songbirds, only males sing. In the plain-tailed wren of South America, however, males and females sing together in closely coordinated duets, each bird alternating syllables so rapidly that the song sounds as though it comes from a single bird. Neuroscientists studying the wrens found that each bird's brain responds more strongly to the full duet than to its own part sung alone. This finding suggests that _____

Which choice most logically completes the text?

- A) female plain-tailed wrens learn to sing before males do.
 - B) the wrens' brains may process the duet as a single unit rather than as two separate songs.
 - C) plain-tailed wrens are unable to hear the songs of other bird species.
 - D) most songbird species will eventually develop duet singing.
-

- 11** Some economists have argued that a city's minimum wage increase caused a decline in restaurant employment. They point to data showing that the number of restaurant jobs in the city fell in the year after the increase took effect. Economist Lars Vinter questions this conclusion, arguing that the data do not show that the wage increase was responsible for the decline.

Which finding, if true, would most directly support Vinter's position?

- A) Restaurant employment fell by a similar amount that year in nearby cities that did not raise their minimum wages.
 - B) Restaurant owners in the city reported in surveys that labor was their largest expense.
 - C) The number of restaurants in the city had grown steadily in the decade before the increase.
 - D) Some restaurants in the city raised menu prices after the minimum wage increase.
-

- 12** Paleontologist Ines Moreau has proposed that *Aquilavenator*, a small feathered dinosaur, used its unusually long middle toe to pin down prey, much as modern hawks use their talons. Critics counter that the toe was too weakly built for gripping and instead helped the animal keep its balance on soft, muddy ground.

Which finding, if true, would most directly support Moreau's claim over the critics' view?

- A) Fossilized footprints show that *Aquilavenator* often walked across muddy riverbanks.
 - B) The toe bone of *Aquilavenator* has attachment sites for strong gripping muscles similar to those in the toes of modern birds of prey.
 - C) *Aquilavenator* had small, sharply pointed teeth.
 - D) Other dinosaurs from the same period had shorter middle toes than *Aquilavenator* did.
-

- 13** In Agnes Morrow's 1891 novel *The Glass Orchard*, Eleanor Vane is admired throughout her town for her generosity. The narrator, however, suggests that Eleanor's gifts serve partly as a means of controlling the people who receive them, as when the narrator observes, _____

Which quotation from *The Glass Orchard* most effectively illustrates the claim?

- A)** "Eleanor gave freely to every family on Mill Street, and no winter passed without baskets of coal and bread appearing on their doorsteps."
- B)** "The townspeople spoke of Eleanor with a warmth they reserved for no one else."
- C)** "She never gave a gift without remembering it, and she never let its recipient forget that she remembered."
- D)** "Eleanor herself lived simply, and her own dresses were mended many times over."

14

Year	Arctic sea ice extent in September (million square kilometers)
1980	7.7
1990	6.1
2000	6.3
2010	4.9
2020	3.9

A student reviewing satellite records of Arctic sea ice claims that although the September extent of sea ice has generally declined since 1980, the decline has not been steady from one decade to the next.

Which choice most effectively uses data from the table to support the student's claim?

- A)** The extent fell from 7.7 million square kilometers in 1980 to 3.9 million square kilometers in 2020.
- B)** The extent was slightly larger in 2000 than in 1990, even though it was far smaller in 2020 than in 1980.
- C)** The extent in 2010 was 4.9 million square kilometers.
- D)** The extent was smaller in 2020 than in any other year shown.

- 15** The following text is from a 1908 novel by Lionel Ashby. Clara has been asked by her employer to judge a young man applying to tutor the family's children.

Clara listened as Mr. Fenwick recited his qualifications: the Latin prizes, the letters from his professors, the summer spent in Rome. He spoke well and without a single pause. When he had finished, she asked what he thought of the children's drawings pinned to the wall behind her. He glanced at them, called them very charming, and returned at once to his Latin prizes. Clara made a small note in her book, suspecting that Mr. Fenwick _____

Which choice most logically completes the text?

- A) would be more attentive to his own accomplishments than to his pupils.
 - B) lacked the scholarly training that the position required.
 - C) disliked children and would treat them harshly.
 - D) was nervous and had rehearsed his speech to hide that fact.
-

- 16** Austrian-Swedish physicist Lise Meitner helped explain one of the most important scientific discoveries of the twentieth _____ nuclear fission, the splitting of an atom's nucleus.

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

- A) century;
 - B) century
 - C) century, it was
 - D) century:
-

- 17** Each fall, millions of monarch butterflies fly from Canada and the United States to forests in central Mexico, where they spend the winter. The migration of these insects across thousands of kilometers _____ one of the longest insect migrations on Earth.

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

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

- 18** In the late 1700s, Caroline Herschel spent many nights scanning the sky with a small telescope built by her brother William. Searching methodically for faint, fuzzy objects, _____

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

- A) eight comets were discovered by Caroline Herschel between 1786 and 1797.
 - B) Caroline Herschel's discoveries between 1786 and 1797 included eight comets.
 - C) Caroline Herschel discovered eight comets between 1786 and 1797.
 - D) the discovery of eight comets was made by Caroline Herschel between 1786 and 1797.
-

- 19** Among the best-known works of Zora Neale Hurston _____ her 1937 novel *Their Eyes Were Watching God*, which follows Janie Crawford's search for independence and self-expression in early twentieth-century Florida.

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

- A) is,
 - B) is:
 - C) is
 - D) , is
-

- 20** In the 1950s, geologist Marie Tharp and her colleague Bruce Heezen analyzed thousands of depth measurements taken by ships crossing the Atlantic. Using these soundings to map the ocean floor, _____

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

- A) the Mid-Atlantic Ridge was shown to contain a deep valley running along its center.
 - B) Tharp and Heezen showed that the Mid-Atlantic Ridge contained a deep valley running along its center.
 - C) a deep valley running along the center of the Mid-Atlantic Ridge was revealed.
 - D) the ocean floor's Mid-Atlantic Ridge turned out to contain a deep valley along its center.
-

- 21** Before the 1990s, astronomers had not confirmed a single planet orbiting a Sun-like star. The number of known exoplanets _____ grown rapidly since then, especially after the Kepler space telescope began its survey in 2009.

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

- A) have
 - B) are
 - C) were
 - D) has
-

- 22** Ecologists studied twelve species of wild bees living in different mountain valleys. They found that each of the bee species had adapted _____ foraging behavior to the particular flowers that bloom in its local habitat.

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

- A) its
 - B) their
 - C) it's
 - D) they're
-

- 23** While researching a topic, a student has taken the following notes:

- Pluto was discovered in 1930 by astronomer Clyde Tombaugh.
- For 76 years, it was considered the ninth planet.
- In 2006, the International Astronomical Union (IAU) adopted a definition requiring a planet to have cleared its orbit of other objects.
- Pluto shares its orbital zone with many objects in the Kuiper Belt.
- The IAU reclassified Pluto as a dwarf planet.

The student wants to explain why Pluto was reclassified. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A) Because Pluto shares its orbital zone with many Kuiper Belt objects, it did not meet the IAU's 2006 requirement that a planet clear its orbit, so it was reclassified as a dwarf planet.
 - B) In 2006, the IAU reclassified Pluto, which had been considered the ninth planet for 76 years, as a dwarf planet.
 - C) Pluto was discovered in 1930 by Clyde Tombaugh and reclassified in 2006.
 - D) The IAU adopted a new definition of a planet in 2006.
-

- 24** In 1997, the Guggenheim Museum Bilbao, designed by architect Frank Gehry, opened in a struggling industrial city in northern Spain. The museum drew millions of visitors and helped revive Bilbao's economy, a pattern later called the "Bilbao effect." _____ many other cities have commissioned striking buildings from famous architects in hopes of reviving their own economies, though not all have had the same success.

Which choice completes the text with the most logical transition?

- A) Since then,
 - B) Before this,
 - C) In contrast,
 - D) Instead,
-

- 25** Astronomers have identified more than 5,000 planets orbiting stars other than the Sun. Many of these exoplanets lie in their stars' habitable zones, where temperatures could allow liquid water to exist on a planet's surface. _____ no exoplanet has yet shown definitive signs of life, and detecting such signs remains extremely difficult with current telescopes.

Which choice completes the text with the most logical transition?

- A) Accordingly,
- B) Still,
- C) Specifically,
- D) Moreover,

-
- 26** A team of marine biologists wanted to learn how far juvenile white sharks travel after leaving the coastal waters where they are born. _____ the team attached satellite tags to several young sharks and tracked the animals' movements for more than a year.

Which choice completes the text with the most logical transition?

- A) Nevertheless,
- B) To that end,
- C) In addition,
- D) By comparison,

-
- 27** While researching a topic, a student has taken the following notes:

- In 2006, researchers at the University of Washington wore a distinctive mask while trapping and banding wild crows.
- Afterward, crows scolded and mobbed people who wore that mask on campus.
- People wearing a different, neutral mask were largely ignored.
- In later years, crows that had never been trapped also began scolding the mask.
- The researchers concluded that crows can learn which human faces are dangerous from other crows.

The student wants to emphasize that the crows' reaction spread beyond the birds that were originally trapped. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A) After researchers wore a distinctive mask while trapping crows, the crows scolded people in that mask but largely ignored people in a neutral mask.
- B) Even crows that had never been trapped came to scold the mask worn during trapping, suggesting that crows learn about dangerous faces from one another.
- C) In 2006, University of Washington researchers wore a distinctive mask while trapping and banding wild crows.
- D) Crows scolded and mobbed people wearing a mask that researchers had worn while trapping them.

STOP. If you finish before time is up, check your work on this module only.

Math, Module 1

22 questions
35 minutes

The Desmos graphing calculator and the reference sheet are allowed on every question. For multiple-choice questions, circle your answer. For student-produced response questions, write your answer in the blank. A positive answer can be up to 5 characters, a negative answer up to 6. Fractions and decimals are both fine.

-
- 1** The function f is defined by $f(x) = 3x - 5$. What is the value of $f(4)$?
- A) 2
 - B) 7
 - C) 12
 - D) 17
-
- 2** What is the solution (x, y) to the system $y = x + 2$ and $y = -2x + 11$?
- A) (3, 5)
 - B) (5, 3)
 - C) (2, 4)
 - D) (9, 11)
-
- 3** A colony of bacteria has 500 bacteria at time $t = 0$, and the number of bacteria doubles every hour. Which function gives the number of bacteria, $P(t)$, after t hours?
- A) $P(t) = 500(2)^t$
 - B) $P(t) = 2(500)^t$
 - C) $P(t) = 500 + 2t$
 - D) $P(t) = 500t^2$
-
- 4** The function f is defined by $f(x) = x^2 - 3x + 2$. What is the value of $f(4)$?
- A) 2
 - B) 6
 - C) 10
 - D) 30
-
- 5** What is the positive solution to the equation $x^2 = 49$?
- A) 7
 - B) 14
 - C) 24.5
 - D) 49
-

6 A researcher wants to determine whether listening to music while studying affects students' test scores. Which of the following describes an experiment that could address this question?

- A) Surveying students about whether they listen to music while studying and comparing their test scores
 - B) Reviewing last year's test scores of students who are in the school band
 - C) Asking teachers whether they think music helps students study
 - D) Randomly assigning students to study either with music or in silence, then comparing their test scores
-

7 In the xy -plane, the graph of $5x - 2y = 20$ crosses the y -axis at the point $(0, b)$. What is the value of b ?

Write your answer: _____

8 A test has 60 questions. A student answered 45 of the questions correctly. What percent of the questions did the student answer correctly?

Write your answer: _____

9 A rectangular storage box has a length of 6 inches, a width of 5 inches, and a height of 4 inches. What is the volume, in cubic inches, of the box?

Write your answer: _____

10 How many solutions does the equation $3(2x - 4) = 6x - 12$ have?

- A) Zero
 - B) Exactly one
 - C) Exactly two
 - D) Infinitely many
-

11 What is the vertex of the graph of $y = 2(x + 3)^2 - 8$ in the xy -plane?

- A) $(3, -8)$
 - B) $(-3, -8)$
 - C) $(-3, 8)$
 - D) $(-6, -8)$
-

12 A botanist recorded the height h , in centimeters, of a sunflower each week for 10 weeks. The line of best fit for the data is $h = 2.4w + 15$, where w is the number of weeks after the botanist began recording. Which of the following is the best interpretation of 2.4 in this context?

- A) The predicted height of the sunflower, in centimeters, when the botanist began recording
 - B) The predicted total growth of the sunflower, in centimeters, over the 10 weeks
 - C) The predicted increase in the sunflower's height, in centimeters, for each additional week
 - D) The predicted number of weeks it takes the sunflower to grow 1 centimeter
-

13 Priya's scores on her first three tests were 78, 88, and 90. What is the minimum score she must earn on her fourth test so that the average of her four test scores is at least 85?

Write your answer: _____

14 A line in the xy -plane passes through the points $(-3, 5)$ and $(1, -7)$. What is the y -coordinate of the y -intercept of the line?

Write your answer: _____

15 The expression $(3x + 2)(2x - 5)$ is equivalent to $ax^2 + bx + c$, where a , b , and c are constants. What is the value of $a + b + c$?

Write your answer: _____

16 In right triangle JKL , angle K is the right angle. The cosine of angle J is 0.6, and $JK = 9$. What is the length of the hypotenuse $\overline{JL}$?

Write your answer: _____

17 In the xy -plane, the lines $y = 4x - 9$ and $y = -2x + c$, where c is a constant, intersect at the point (h, k) . If $k = 2h$, what is the value of c ?

- A) 0
 - B) 9
 - C) 13.5
 - D) 18
-

18 A chemist mixes x liters of a 20% acid solution with 12 liters of a 50% acid solution. The resulting mixture is a 30% acid solution. What is the value of x ?

- A) 6
- B) 24
- C) 36
- D) 60

19 For $x > 3$, which expression is equivalent to $\frac{2}{x-3} - \frac{12}{x^2-9}$?

- A) $\frac{2}{x+3}$
- B) $\frac{-10}{x^2-9}$
- C) $\frac{2}{x-3}$
- D) $\frac{2x+18}{x^2-9}$

20 Researchers selected a random sample of 600 high school students from across one state. Half of the students were randomly assigned to complete a six-week online tutoring program, and the other half did not use the program. The students who used the program showed significantly greater improvement on a math test. Which of the following is the most appropriate conclusion?

- A) The program causes greater improvement in math for all high school students in the United States.
- B) The program is associated with greater improvement, but it cannot be concluded that the program caused it.
- C) The program causes greater improvement only for the 300 students who used it.
- D) The program likely causes greater improvement in math for high school students in the state.

21 Points A and B lie on a circle with center O and radius 10. The length of chord $\overline{AB}$ is $10\sqrt{3}$. What is the length of the minor arc AB ?

- A) $\frac{10\pi}{3}$
- B) 5π
- C) $\frac{40\pi}{3}$
- D) $\frac{20\pi}{3}$

22 If a and b are the solutions to the equation $3x^2 - 12x + 5 = 0$, what is the value of $ab + a + b$?

Write your answer: _____

STOP. If you finish before time is up, check your work on this module only.

Math, Module 2 (Easier)

22 questions
35 minutes

The Desmos graphing calculator and the reference sheet are allowed on every question. For multiple-choice questions, circle your answer. For student-produced response questions, write your answer in the blank. A positive answer can be up to 5 characters, a negative answer up to 6. Fractions and decimals are both fine.

1 $2x + 3y = 13$
 $x = 2$

What is the value of y in the solution to the system of equations above?

- A) 3
- B) $\frac{13}{3}$
- C) $\frac{17}{3}$
- D) 9

2

x	$f(x)$
1	5
2	8
3	11

The table shows three values of x and their corresponding values of $f(x)$ for the linear function f . Which equation defines f ?

- A) $f(x) = x + 4$
- B) $f(x) = 5x$
- C) $f(x) = 3x + 2$
- D) $f(x) = 3x + 5$

3 The function $C(t) = 12 + 4.5t$ gives the total cost, in dollars, of renting a kayak for t hours. What is the best interpretation of 12 in this context?

- A) The cost per hour of renting the kayak
- B) The maximum number of hours the kayak can be rented
- C) The total cost of renting the kayak for 1 hour
- D) A fixed cost charged regardless of the number of hours

4 What is the x -intercept of the graph of $3x + y = 9$ in the xy -plane?

- A) $(0, 9)$
 - B) $(3, 0)$
 - C) $(9, 0)$
 - D) $(0, 3)$
-

5 A theater sells adult tickets for \$12 each and child tickets for \$8 each. One evening the theater collected \$384 and sold 20 adult tickets. How many child tickets did it sell?

- A) 12
 - B) 18
 - C) 30
 - D) 48
-

6 Which expression is equivalent to $x^2 - 25$?

- A) $(x - 5)^2$
 - B) $(x - 25)(x + 1)$
 - C) $(x + 5)^2$
 - D) $(x - 5)(x + 5)$
-

7 Which expression is equivalent to $(x^2 + 3x - 4) - (2x^2 - x + 6)$?

- A) $-x^2 + 4x - 10$
 - B) $3x^2 + 2x + 2$
 - C) $-x^2 + 2x + 2$
 - D) $-x^2 + 4x + 2$
-

8 Which expression is equivalent to $4x^3 \cdot 3x^2$?

- A) $7x^5$
 - B) $12x^6$
 - C) $7x^6$
 - D) $12x^5$
-

- 9** A bag contains 6 red marbles, 9 blue marbles, and 5 green marbles. If one marble is selected at random, what is the probability that it is green?
- A) $\frac{1}{4}$
B) $\frac{1}{3}$
C) $\frac{1}{5}$
D) $\frac{3}{4}$
-
- 10** A cyclist rides at a constant speed of 18 kilometers per hour. How many kilometers does the cyclist travel in 40 minutes?
- A) 7.2
B) 12
C) 27
D) 720
-
- 11** An office printer prints 45 pages in 3 minutes. At this rate, how many pages will the printer print in 20 minutes?
- A) 135
B) 260
C) 300
D) 900
-
- 12** A circle in the xy -plane has equation $(x - 3)^2 + (y + 2)^2 = 16$. What are the center and radius of the circle?
- A) Center $(-3, 2)$, radius 4
B) Center $(3, -2)$, radius 16
C) Center $(3, -2)$, radius 4
D) Center $(-3, 2)$, radius 16
-
- 13** A circle has a circumference of 18π inches. What is the area, in square inches, of the circle?
- A) 9π
B) 36π
C) 81π
D) 324π
-

- 14** The expression $(x + 4)(x + 6)$ is equivalent to $x^2 + bx + 24$, where b is a constant. What is the value of b ?

Write your answer: _____

- 15** The function h is defined by $h(x) = 3x^2 - 7$. What is the value of $h(-2)$?

Write your answer: _____

- 16** A museum sold 150 tickets in one day. Adult tickets cost \$14 and student tickets cost \$9. The museum collected \$1,750 from these tickets. How many adult tickets were sold?

- A) 70
 - B) 80
 - C) 105
 - D) 125
-

- 17** If $5x - 3 = 17$, what is the value of $10x + 4$?

- A) 4
 - B) 24
 - C) 40
 - D) 44
-

- 18** The function f is defined by $f(x) = x^2$. The function g is defined by $g(x) = f(x - 2) + 3$. What is the vertex of the graph of $y = g(x)$?

- A) $(-2, 3)$
 - B) $(3, 2)$
 - C) $(2, 3)$
 - D) $(2, -3)$
-

- 19** What is the sum of the solutions to the equation $x^2 - 10x + 21 = 0$?

- A) -10
 - B) 7
 - C) 10
 - D) 21
-

- 20** A park has 900 trees. A biologist examined a random sample of 60 of the trees and found that 15% had a certain leaf disease. The margin of error for this estimate is 9 percentage points. Is it plausible that more than 20% of the trees in the park have the disease?
- A) No, because the sample proportion is 15%, which is less than 20%.
 - B) Yes, because the plausible values for the population proportion range from 6% to 24%, which includes values greater than 20%.
 - C) No, because 20% is greater than the margin of error of 9%.
 - D) Yes, because 9 of the 60 trees in the sample had the disease.
-

- 21** What value of x satisfies the equation $\frac{2x+1}{3} = \frac{x-4}{2}$?

Write your answer: _____

- 22** A surveyor stands 50 meters from the base of a building on level ground and measures the angle of elevation to the top of the building as 40° . To the nearest meter, what is the height of the building? (Ignore the surveyor's height.)

Write your answer: _____

STOP. If you finish before time is up, check your work on this module only.

Math, Module 2 (Harder)

22 questions
35 minutes

The Desmos graphing calculator and the reference sheet are allowed on every question. For multiple-choice questions, circle your answer. For student-produced response questions, write your answer in the blank. A positive answer can be up to 5 characters, a negative answer up to 6. Fractions and decimals are both fine.

1 $4x - y = 10$
 $2x + 3y = 26$

If (x, y) is the solution to the system of equations, what is the value of $x + y$?

- A) 4
- B) 6
- C) 10
- D) 18

2 For which of the following systems of inequalities is the point $(2, 3)$ a solution?

- A) $y > x + 2$
 $y < 4$
- B) $y \leq -x + 4$
 $y \geq 0$
- C) $y \geq 2x$
 $x + y \leq 4$
- D) $y < x + 2$
 $y > 1$

3 $y = x^2$
 $y = 4x - 4$

What is the solution (x, y) to the system of equations above?

- A) $(2, 4)$
- B) $(-2, 4)$
- C) $(4, 16)$
- D) $(1, 1)$

4

x	$f(x)$
0	3
1	12
2	48

The table shows three values of x and their corresponding values of $f(x)$ for the exponential function f . Which equation defines f ?

- A) $f(x) = 9x + 3$
- B) $f(x) = 4(3)^x$
- C) $f(x) = 12x^2$
- D) $f(x) = 3(4)^x$

5

A farmer wants to test whether a new fertilizer increases tomato yield. The farmer has 40 similar garden plots available. Which of the following study designs would best allow the farmer to conclude that the fertilizer causes an increase in yield?

- A) Randomly assign 20 of the plots to receive the fertilizer and the other 20 to receive no fertilizer, then compare yields.
- B) Apply the fertilizer to the 20 plots that get the most sunlight, then compare their yields with the other 20 plots.
- C) Apply the fertilizer to all 40 plots and compare this year's yield with last year's yield.
- D) Let a neighbor choose which 20 plots receive the fertilizer, then compare yields.

6

A right triangle has legs of length 9 and 12. A square has the same area as the triangle. What is the side length of the square?

- A) 7.5
- B) $6\sqrt{3}$
- C) 27
- D) $3\sqrt{6}$

7

In the xy -plane, the graph of $ax + 4y = 20$, where a is a constant, passes through the point $(2, 3)$. What is the value of a ?

Write your answer: _____

- 8** In the equation $a(3x - 2) + 4 = 9x + b$, a and b are constants. If the equation has infinitely many solutions, what is the value of b ?
- A) -10
B) -2
C) 2
D) 4
-
- 9** For the linear function p , $p(1) = -3$ and $p(5) = 9$. If $p(c) = 30$, what is the value of c ?
- A) 8
B) 11
C) 12
D) 84
-
- 10** The equation $8x + 12y = 960$ represents the number of units of product X, x , and product Y, y , that a company must sell to earn \$960. If the company sells 6 fewer units of product X, how many more units of product Y must it sell to still earn \$960?
- A) 4
B) 6
C) 9
D) 48
-
- 11** The graph of the linear function f in the xy -plane passes through the points $(a, 2a)$ and $(3a, -4a)$, where a is a nonzero constant. Which of the following is the x -intercept of the graph?
- A) $(\frac{5a}{3}, 0)$
B) $(5a, 0)$
C) $(-\frac{5a}{3}, 0)$
D) $(\frac{2a}{3}, 0)$
-
- 12** In the xy -plane, a line with a slope of 3 passes through the points $(p, 4)$ and $(6, p)$, where p is a constant. What is the value of p ?
- A) $\frac{11}{4}$
B) 7
C) $\frac{11}{2}$
D) 22
-

13 For $x \neq \frac{1}{2}$, the expression $\frac{6x+5}{2x-1}$ is equivalent to $3 + \frac{A}{2x-1}$, where A is a constant. What is the value of A ?

- A) 2
 - B) 5
 - C) 8
 - D) 11
-

14 The number of users of an app t months after launch is modeled by $N(t) = 2,400(1.2)^{\frac{t}{3}}$. According to the model, by what percent does the number of users increase every 6 months?

- A) 20%
 - B) 40%
 - C) 44%
 - D) 120%
-

15 $y = -x^2 + 6x - 5$
 $y = k$

In the system of equations above, k is a constant. For which of the following values of k does the system have no real solutions?

- A) 0
 - B) 2
 - C) 4
 - D) 5
-

16 $x^2 + y^2 = 25$
 $y = x + 1$

The system of equations above has two solutions. If (a, b) is the solution with $a < 0$, what is the value of ab ?

- A) -12
 - B) 7
 - C) 12
 - D) 25
-

- 17** The number a is 40% greater than the number b , and b is 25% less than the positive number c . The value of a is what percent of c ?

A) 65%
B) 95%
C) 115%
D) 105%

- 18** In triangle ABC , the measure of angle B is 70° and the measure of angle C is 40° . The bisector of angle A intersects $\overline{BC}$ at point D . What is the measure of angle ADC ?

A) 105°
B) 35°
C) 75°
D) 110°

- 19** $y = x^2 + 4$

$$y = mx$$

In the system of equations above, m is a positive constant. If the system has exactly one solution, what is the value of m ?

Write your answer: _____

20

	Defective	Not defective	Total
Machine A	36	1,164	1,200
Machine B	40	760	800
Total	76	1,924	2,000

A factory has two machines. The table summarizes the items produced by each machine in one day and whether each item was defective. If an item produced that day is selected at random from the defective items, what is the probability that it was produced by machine B?

Write your answer: _____

- 21** The combined mean test score of the students in two classes is 84. Class A has 20 students with a mean score of 78, and class B has a mean score of 88. How many students are in class B?

Write your answer: _____

- 22** In a right triangle, the measures of the two acute angles are x° and $(2x - 30)^\circ$. It is also true that $\sin(x^\circ) = \cos((2x - 30)^\circ)$. What is the value of x ?

Write your answer: _____

STOP. If you finish before time is up, check your work on this module only.

Answer key

For a full explanation of any question, go to the link in the last column. To get your scaled score and weakest areas, enter your answers at satowl.com/score.

Reading and Writing, Module 1

#	Answer	Skill	Full explanation
1	A	Text Structure and Purpose	satowl.com/q/ra-0155
2	C	Text Structure and Purpose	satowl.com/q/ra-0135
3	B	Cross-Text Connections	satowl.com/q/ra-0158
4	C	Text Structure and Purpose	satowl.com/q/ra-0036
5	B	Words in Context	satowl.com/q/ra-0133
6	A	Text Structure and Purpose	satowl.com/q/ra-0016
7	C	Text Structure and Purpose	satowl.com/q/ra-0097
8	A	Words in Context	satowl.com/q/ra-0052
9	C	Central Ideas and Details	satowl.com/q/ra-0121
10	B	Central Ideas and Details	satowl.com/q/ra-0061
11	D	Central Ideas and Details	satowl.com/q/ra-0101
12	B	Central Ideas and Details	satowl.com/q/ra-0002
13	A	Inferences	satowl.com/q/ra-0071
14	D	Inferences	satowl.com/q/ra-0049
15	C	Central Ideas and Details	satowl.com/q/ra-0064
16	B	Form, Structure, and Sense	satowl.com/q/rb-0146
17	A	Form, Structure, and Sense	satowl.com/q/rb-0145
18	A	Form, Structure, and Sense	satowl.com/q/rb-0118
19	C	Boundaries	satowl.com/q/rb-0080
20	A	Form, Structure, and Sense	satowl.com/q/rb-0124
21	D	Form, Structure, and Sense	satowl.com/q/rb-0156
22	A	Boundaries	satowl.com/q/rb-0111
23	A	Transitions	satowl.com/q/rb-0040
24	D	Transitions	satowl.com/q/rb-0055
25	A	Transitions	satowl.com/q/rb-0058
26	C	Transitions	satowl.com/q/rb-0056
27	D	Rhetorical Synthesis	satowl.com/q/rb-0018

Reading and Writing, Module 2 (Easier)

#	Answer	Skill	Full explanation
1	B	Words in Context	satowl.com/q/ra-0131
2	D	Text Structure and Purpose	satowl.com/q/ra-0054
3	A	Text Structure and Purpose	satowl.com/q/ra-0035
4	B	Text Structure and Purpose	satowl.com/q/ra-0096
5	A	Words in Context	satowl.com/q/ra-0091

6	D	Text Structure and Purpose	satowl.com/q/ra-0136
7	B	Cross-Text Connections	satowl.com/q/ra-0120
8	D	Text Structure and Purpose	satowl.com/q/ra-0115
9	D	Inferences	satowl.com/q/ra-0069
10	B	Central Ideas and Details	satowl.com/q/ra-0141
11	B	Inferences	satowl.com/q/ra-0028
12	A	Central Ideas and Details	satowl.com/q/ra-0082
13	A	Inferences	satowl.com/q/ra-0088
14	C	Command of Evidence	satowl.com/q/ra-0026
15	D	Inferences	satowl.com/q/ra-0030
16	C	Form, Structure, and Sense	satowl.com/q/rb-0126
17	A	Boundaries	satowl.com/q/rb-0071
18	D	Form, Structure, and Sense	satowl.com/q/rb-0127
19	B	Form, Structure, and Sense	satowl.com/q/rb-0138
20	D	Form, Structure, and Sense	satowl.com/q/rb-0151
21	C	Form, Structure, and Sense	satowl.com/q/rb-0136
22	D	Boundaries	satowl.com/q/rb-0101
23	C	Rhetorical Synthesis	satowl.com/q/rb-0004
24	D	Rhetorical Synthesis	satowl.com/q/rb-0031
25	A	Rhetorical Synthesis	satowl.com/q/rb-0033
26	C	Transitions	satowl.com/q/rb-0052
27	D	Transitions	satowl.com/q/rb-0059

Reading and Writing, Module 2 (Harder)

#	Answer	Skill	Full explanation
1	B	Words in Context	satowl.com/q/ra-0094
2	C	Words in Context	satowl.com/q/ra-0092
3	C	Words in Context	satowl.com/q/ra-0051
4	C	Cross-Text Connections	satowl.com/q/ra-0058
5	D	Text Structure and Purpose	satowl.com/q/ra-0076
6	B	Text Structure and Purpose	satowl.com/q/ra-0037
7	C	Text Structure and Purpose	satowl.com/q/ra-0017
8	D	Cross-Text Connections	satowl.com/q/ra-0019
9	A	Command of Evidence	satowl.com/q/ra-0024
10	B	Inferences	satowl.com/q/ra-0009
11	A	Command of Evidence	satowl.com/q/ra-0067
12	B	Command of Evidence	satowl.com/q/ra-0045
13	C	Command of Evidence	satowl.com/q/ra-0086
14	B	Command of Evidence	satowl.com/q/ra-0104
15	A	Inferences	satowl.com/q/ra-0031
16	D	Boundaries	satowl.com/q/rb-0110

17	B	Form, Structure, and Sense	satowl.com/q/rb-0116
18	C	Form, Structure, and Sense	satowl.com/q/rb-0139
19	C	Boundaries	satowl.com/q/rb-0090
20	B	Form, Structure, and Sense	satowl.com/q/rb-0149
21	D	Form, Structure, and Sense	satowl.com/q/rb-0134
22	A	Form, Structure, and Sense	satowl.com/q/rb-0152
23	A	Rhetorical Synthesis	satowl.com/q/rb-0029
24	A	Transitions	satowl.com/q/rb-0043
25	B	Transitions	satowl.com/q/rb-0057
26	B	Transitions	satowl.com/q/rb-0047
27	B	Rhetorical Synthesis	satowl.com/q/rb-0006

Math, Module 1

#	Answer	Skill	Full explanation
1	B	Linear functions	satowl.com/q/ma-0021
2	A	Systems of two linear equations in two variables	satowl.com/q/ma-0063
3	A	Nonlinear functions	satowl.com/q/ma-0102
4	B	Nonlinear functions	satowl.com/q/ma-0101
5	A	Nonlinear equations in one variable and systems of equations in two variables	satowl.com/q/ma-0121
6	D	Evaluating statistical claims: observational studies and experiments	satowl.com/q/mb-0072
7	-10	Linear equations in two variables	satowl.com/q/ma-0043
8	75	Percentages	satowl.com/q/mb-0102
9	120	Area and volume	satowl.com/q/mb-0008
10	D	Linear equations in one variable	satowl.com/q/ma-0010
11	B	Nonlinear functions	satowl.com/q/ma-0107
12	C	Two-variable data: models and scatterplots	satowl.com/q/mb-0004
13	84	Linear inequalities in one or two variables	satowl.com/q/ma-0087
14	-4	Linear functions	satowl.com/q/ma-0029
15	-15	Equivalent expressions	satowl.com/q/ma-0148
16	15	Right triangles and trigonometry	satowl.com/q/mb-0079
17	D	Systems of two linear equations in two variables	satowl.com/q/ma-0077
18	B	Linear equations in one variable	satowl.com/q/ma-0018
19	A	Equivalent expressions	satowl.com/q/ma-0160
20	D	Evaluating statistical claims: observational studies and experiments	satowl.com/q/mb-0044

21	D	Circles	satowl.com/q/mb-0040
22	17/3 or 5.666 or 5.667	Nonlinear equations in one variable and systems of equations in two variables	satowl.com/q/ma-0139

Math, Module 2 (Easier)

#	Answer	Skill	Full explanation
1	A	Systems of two linear equations in two variables	satowl.com/q/ma-0065
2	C	Linear functions	satowl.com/q/ma-0025
3	D	Linear functions	satowl.com/q/ma-0022
4	B	Linear equations in two variables	satowl.com/q/ma-0044
5	B	Linear equations in two variables	satowl.com/q/ma-0046
6	D	Equivalent expressions	satowl.com/q/ma-0143
7	A	Equivalent expressions	satowl.com/q/ma-0142
8	D	Equivalent expressions	satowl.com/q/ma-0144
9	A	Probability and conditional probability	satowl.com/q/mb-0005
10	B	Ratios, rates, proportional relationships, and units	satowl.com/q/mb-0121
11	C	Ratios, rates, proportional relationships, and units	satowl.com/q/mb-0021
12	C	Circles	satowl.com/q/mb-0039
13	C	Circles	satowl.com/q/mb-0119
14	10	Equivalent expressions	satowl.com/q/ma-0145
15	5	Nonlinear functions	satowl.com/q/ma-0106
16	B	Systems of two linear equations in two variables	satowl.com/q/ma-0068
17	D	Linear equations in one variable	satowl.com/q/ma-0008
18	C	Nonlinear functions	satowl.com/q/ma-0114
19	C	Nonlinear equations in one variable and systems of equations in two variables	satowl.com/q/ma-0128
20	B	Inference from sample statistics and margin of error	satowl.com/q/mb-0070
21	-14	Linear equations in one variable	satowl.com/q/ma-0009
22	42	Right triangles and trigonometry	satowl.com/q/mb-0137

Math, Module 2 (Harder)

#	Answer	Skill	Full explanation
1	C	Systems of two linear equations in two variables	satowl.com/q/ma-0067
2	D	Linear inequalities in one or two variables	satowl.com/q/ma-0091
3	A	Nonlinear equations in one variable and systems of equations in two variables	satowl.com/q/ma-0127
4	D	Nonlinear functions	satowl.com/q/ma-0110
5	A	Evaluating statistical claims: observational studies and experiments	satowl.com/q/mb-0043
6	D	Area and volume	satowl.com/q/mb-0033

7	4	Linear equations in two variables	satowl.com/q/ma-0050
8	B	Linear equations in one variable	satowl.com/q/ma-0017
9	C	Linear functions	satowl.com/q/ma-0036
10	A	Linear equations in two variables	satowl.com/q/ma-0058
11	A	Linear functions	satowl.com/q/ma-0038
12	C	Linear equations in two variables	satowl.com/q/ma-0057
13	C	Equivalent expressions	satowl.com/q/ma-0156
14	C	Nonlinear functions	satowl.com/q/ma-0119
15	D	Nonlinear equations in one variable and systems of equations in two variables	satowl.com/q/ma-0137
16	C	Nonlinear equations in one variable and systems of equations in two variables	satowl.com/q/ma-0140
17	D	Percentages	satowl.com/q/mb-0052
18	A	Lines, angles, and triangles	satowl.com/q/mb-0135
19	4	Nonlinear equations in one variable and systems of equations in two variables	satowl.com/q/ma-0136
20	10/19 or .5263 or 0.5263	Probability and conditional probability	satowl.com/q/mb-0058
21	30	One-variable data: distributions and measures of center and spread	satowl.com/q/mb-0125
22	40	Right triangles and trigonometry	satowl.com/q/mb-0046