GEORGIA MILESTONES

2017 Georgia Standards of Excellence English Language Arts

GRADE 8

STUDY PACKET

ROCK THE TEST

Book 1

TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

- Be sure to read all the directions carefully.
- Most questions will make sense only when you **read the whole passage**. You may read the passage more than once to answer a question. When a question includes a quotation from a passage, be sure to keep in mind what you learned from reading the whole passage. You may need to review **both** the quotation and the passage in order to answer the question correctly.
- Read each question carefully and think about the answer before choosing your response.
- Plan your time.

Directions
Read this article. Then answer questions 29 through 35.

Fun 101
(aka How to Escape Boredom)

by Aaron Millar

Confession Time: I once had a class that was so boring I fell asleep—head flat on desk—completely out! I'm not proud of it and I'm sure it didn't help my grade, but it's not too uncommon. After all, there's nothing more thumb-twiddle tedious than being stuck in a boring class. Every second takes an eternity to tick by. You begin to wish you had your cell phone and could at least send off a few texts.

Boredom is the enemy of fun. If fun is pulling a 360 air on your mountain bike,[1] boredom is a flat tire. If fun is the big drop of a roller coaster, boredom is waiting in line. If we want to figure out the future of fun, we have to first figure out how to end boredom. Imagine that: a world where each second is interesting and nothing is dull. That sounds like science fiction, but new psychological research hints that being bored—even in class—may one day be a thing of the past.

Boredom in Society

The next time your parents complain when you say you're bored, you might remind them that you're not alone. A recent survey of American kids revealed that 91 percent experience boredom. In fact, adolescence is considered a peak period for the malady. One study showed that while roughly one in three teenagers were bored at school, less than one in 20 adults were bored at work. That's more serious than it sounds for teens. Chronic boredom is associated with a range of mental and social problems, including drug and alcohol abuse . . . definitely not fun!

Unfortunately, the problem seems to be getting worse. Peter Stromberg, professor of anthropology at the University of Tulsa and author of *Caught in Play: How Entertainment Works on You*, believes that the way we have fun in modern society sets us up to become bored. "If you're driving fast on the highway and you suddenly have to slow down to 30 miles per hour, it feels like you're going about two. That's because our brains adapt really quickly to certain levels of stimulation—in this case, speed. But entertainment systems do the same thing: We get used to the media providing levels of highly emotional stimulation, and when we're not getting them we feel bored." As our society develops increasingly sophisticated ways of keeping us entertained, we may discover that rather

[1] **pulling a 360 air on your mountain bike:** a mountain biking trick where the rider rotates the mountain bike in a complete circle while airborne

than eliminating boredom, we're amplifying it. Luckily, new research is hinting at a way that we can combat the trend.

So What Is Boredom?

There's no doubting it when you feel it, but defining what boredom is and how it's caused has proven tricky for scientists to pin down. A longing for something but not knowing what it is or how to get it; feeling like there's no point in doing anything; a sense of frustration, laziness, and maybe even depression are all aspects of being bored. They don't, however, describe what's going on in our brains to cause the feelings. Professor John D. Eastwood of the University of York in Ontario decided to do something about that. Pooling all existing research on the subject, he and his team developed a new theory of boredom, which links it to the brain's attention system—literally the part of the brain that we use to focus.

Here's how it works: Imagine your brain is a spaceship. You have a high-tech control panel and each touch command controls a specific system on the ship. The attention system is very important because it's like the starship *Enterprise*'s "tractor beam"—the ray of energy that extends outward from the ship pulling objects toward it like a magnet. Just like that tractor beam, anything the attention system in your brain locks onto will be automatically sucked up into your conscious awareness—it might be a bird outside the window, the smell of lunch drifting down from the cafeteria, or even someone sleeping in the back of the class (Not me!).

The problem is that your attention system doesn't like being told what to do. It wants to focus on stuff that you find fun and interesting. For the parts of school that you enjoy, this isn't a problem: Your tractor beam naturally and effortlessly will suck up all the information you need. But for those classes that don't interest you, or present too much (or too little) challenge, the story is very different. In those situations, you're going to have to spend a lot of effort constantly redirecting that tractor beam to focus on things it would rather ignore. And the effort is going to wear you out. Eastwood describes it as "wanting, but being unable, to engage in a satisfying activity." It's like a block in the system. And it's the awareness of that block (your mind won't stop wandering; you can't concentrate) coupled with a sense that the environment is to blame (math is pointless; this teacher is so boring) that leads to feelings of boredom.

The End of Boredom

When we're bored we blame the world around us, but Eastwood's theory challenges this assumption: Boredom doesn't exist out there; it exists in here—inside your brain. What that means is—hard as it may be to hear—boring lessons aren't *only* the fault of your teacher or the subject, they're *your* fault too. Each of us has the ability to make *every* situation interesting; all we need to do is change the way we look at it, and our attention system—our tractor beam—will do the rest.

Stromberg says, "We live in a society where there is a constant ratcheting-up of the
65 level of entertainment, and boredom is a consequence of that." In this view the harder we try to constantly entertain ourselves, the more bored we're likely to become. But Eastwood's theory gives us a way out. The future of fun is not only to be found in the latest games, gadgets, and gizmos; it's found inside of us too. I just wish I knew that before I fell asleep in class . . .

29 Which words from the article provide the best clue to the meaning of the word "tedious" in line 3?

A "Confession Time" (line 1)

B "head flat on desk" (lines 1 and 2)

C "takes an eternity to tick by" (line 4)

D "You begin to wish you had your cell phone" (lines 4 and 5)

30 Read this sentence from line 6 of the article.

Boredom is the enemy of fun.

Which quotation best helps the reader understand this sentence?

A "If fun is the big drop of a roller coaster, boredom is waiting in line." (line 7)

B "If we want to figure out the future of fun, we have to first figure out how to end boredom." (line 8)

C "Imagine that: a world where each second is interesting and nothing is dull." (line 9)

D "That sounds like science fiction, but new psychological research hints that being bored—even in class—may one day be a thing of the past." (lines 9 through 11)

31 Lines 19 through 26 connect modern entertainment to boredom by suggesting that it causes us to

A want more challenging games to play

B misunderstand the role of fun in our lives

C develop expectations for high levels of excitement

D avoid adapting to new technological innovations

32 How does Professor Eastwood's work differ from previous research?

A by attempting to create a new definition for boredom

B by failing to look into a connection to brain activity

C by focusing on the human attention system

D by using data from earlier studies on boredom

33 Read lines 9 through 11 of the article.

> **That sounds like science fiction, but new psychological research hints that being bored—even in class—may one day be a thing of the past.**

Which quotation provides the **best** evidence to support this claim?

A ". . . less than one in 20 adults were bored at work." (lines 15 and 16)

B ". . . our brains adapt really quickly to certain levels of stimulation . . ." (lines 23 and 24)

C ". . . anything the attention system in your brain locks onto will be automatically sucked up into your conscious awareness . . ." (lines 43 and 44)

D "Each of us has the ability to make *every* situation interesting; all we need to do is change the way we look at it . . ." (lines 61 and 62)

34 The final sentence in lines 68 and 69 **best** contributes to the article by

A suggesting that the author often fell asleep in classes

B connecting the information to the incident described at the beginning

C encouraging students to stay awake and avoid boredom in class

D emphasizing that teenagers are often more bored than other groups

35 Which sentence states a central idea that is supported throughout the article?

A Modern entertainment decreases boredom.

B Boredom is present in teenagers more than in adults.

C Everyone experiences boredom occasionally.

D People have the ability to control their boredom.

STOP

Book 3

TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

- Be sure to read all the directions carefully.
- Most questions will make sense only when you **read the whole passage**. You may read the passage more than once to answer a question. When a question includes a quotation from a passage, be sure to keep in mind what you learned from reading the whole passage. You may need to review **both** the quotation and the passage in order to answer the question correctly.
- Read each question carefully and think about the answer before writing your response.
- In writing your responses, be sure to

  —clearly organize your writing and express what you have learned;

  —accurately and completely answer the questions being asked;

  —support your responses with examples or details from the text; and

  —write in complete sentences using correct spelling, grammar, capitalization, and punctuation.

- For the last question in this test book, you may plan your writing on the Planning Page provided but do NOT write your final answer on this Planning Page. Writing on this Planning Page will not count toward your final score. Write your final answer on the lined response pages provided.
- Plan your time.

Directions
Read this article. Then answer question 48.

Monster Debris

by Loree Griffin Burns

In 1991, scientists in Hawaii found a four-thousand-pound monster in the sea.

"Driving up to it in a small boat, it looked very much like a barely emergent sand islet or reef," remembers Dr. Mary Donohue, one of the team of scientists who eventually captured the beast. "It was so buoyant that we could easily stand on it in the water."

The monster was actually a giant mass of discarded fishing nets that had become hopelessly tangled together at sea. The huge ball of plastic was longer than a school bus and half as heavy.

Unfortunately, abandoned nets like this are fairly common. The nets are lost, ripped, or thrown from fishing vessels, and these days they can be found drifting almost anywhere in the world ocean. Scientists call them "ghost nets" because of their eerie ability to continue the work they were designed for—that is, to catch fish—even when they are no longer attached to a fishing boat. As they drift with the currents, ghost nets silently devour everything in their path: fish, turtles, sharks, whales, seals, sea birds, and even trash.

"When an animal gets tangled," explains Mary, "it attracts other predators who feed on the remains and end up entangled themselves."

As if drowning animals weren't bad enough, drifting ghost nets also crush and scrape coral reefs, ruining hundreds of years' worth of coral growth in the crash of a single wave. Mary has seen some of this damage firsthand.

"In some places it looks as if a bulldozer has been driven over the coral reef," she says. "These ghost nets are really destructive."

With the help of dozens of divers, a Coast Guard cutter, and a crane, scientists were eventually able to pull the monstrous ghost net out of the ocean. But surveys conducted by Mary and others found tons—more than fourteen tons, to be exact—of other ghost nets and net pieces littering the Hawaiian Islands environment. To protect the environment as well as the marine animals that live in it, Mary and her colleagues began a program to find, count, and remove ghost nets. Between 1999 and 2005, this group of dedicated scientists, divers, and ecologists removed five hundred tons of net debris from the area,

GO ON

mostly by hand. Even with this success, however, Mary is realistic about humankind's status in the battle against ghost nets.

"The bottom line," she says, "is that we're making a difference ... but right now we're barely holding steady."

Three thousand miles away, Colorado researcher Jim Churnside is working to tip the scales in favor of net removal. Like Mary, Jim is studying the ghost net problem, but from an entirely different angle. With the help of Alaskan pilot Tim Veenstra, he is studying ghost nets from the sky. Tim and Jim believe that one way to protect Hawaii's delicate habitat is to remove ghost nets from the Pacific Ocean long before they drift near the islands. But how do you find ghost nets the size of a school bus (and most are much smaller than this) in an ocean that is larger than all seven continents combined? The job would be like trying to find a needle in a haystack ... unless you know something about Pacific Ocean currents and how floating objects drift in them.

"Our first step was to talk to Jim Ingraham about where in the North Pacific Ocean we should look for the ghost nets," says Jim Churnside. "Then we followed his directions to more specific locations using satellites and aircraft."

In 2003, Churnside and Veenstra launched the GhostNet Project. In collaboration with scientists across the country, the two flew over the Garbage Patch[1] using satellite information, radar, and other technologies to spot ghost nets. In three days' time they saw more than one hundred drifting ghost nets ... and thousands of other types of floating debris.

"There is a lot more trash out there than I expected," said Jim Churnside.

The GhostNet Project continues to monitor the Garbage Patch. The hope is that scientists will eventually be able to use information from satellite pictures of the ocean to determine exactly where ghost nets are. Remember that the exact locations of surface currents can change from year to year. As a result, the exact location of the Garbage Patch changes, too. Combining information from satellites with information from computer models like OSCURS will help scientists to locate the Garbage Patch, and therefore ghost nets, more accurately.

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[1]**Garbage Patch:** large area of ocean trash formed by a spiral of currents in the Eastern Pacific Ocean. The Garbage Patch contains approximately 3.5 million tons of trash, mostly plastic debris.

Directions
Read this article. Then answer questions 49 through 51.

Too Many Fishermen

by Carole Garbury Vogel

The shimmering blue waters of the ocean cover nearly 71 percent of the Earth's surface. However, if you look at a world map you will most likely see the continents drawn in great detail, while the ocean is depicted as a monotonous blue expanse with no hint of the majestic landscape beneath the waves. If you could explore the vistas[1] on the ocean floor, you would find deeper valleys, wider plains, and mountain ranges longer and more massive than anywhere on land.

You would also discover that the majority of ocean life lives within oyster bays, coral reefs, and other habitats in the shallow water rimming the continents. Impressive as this watery world appears today, it pales in comparison to what it once was. Just three hundred years ago you would have found colossal underwater "cities" packed with sea life along every coast. Overfishing turned many of these lush marine havens into biological deserts.

Overfishing depletes fish stocks by taking fish at a rate faster than they can replace themselves. Many fish are harvested before they are even mature enough to reproduce. As a result, marine species are disappearing at an alarming rate. Some kinds of whales and other sea creatures have already been hunted to extinction. More are on the verge. And development along coasts that drains swamps and fills in wetlands has eliminated precious nurseries for new generations of fish and shellfish.

The same map that gives little information about the ocean realm provides clues about the sea life that previously flourished near shore. Place-names like Cape Cod (Massachusetts), Oyster Bay (New York), Seal Harbor (Maine), and Herring Bay (Maryland) are ghostly reminders of animals once plentiful in these locations.

Historical records provide insight, too. Can you imagine New York's harbor crowded with seals, whales, and porpoises, and its shores teeming with lobsters 6-feet (108-meters) long? The Dutch found such bounty when they settled the region in the early 1600s.

Most people know more about the dinosaurs, which became extinct 65 million years ago, than about the massive sea animals that died out within the last three centuries along their own nation's coasts. However, unlike dinosaurs which will never come back, many sea creatures have a chance of recovery. They are considered to be "ecologically extinct." This means that there are still some left but not enough to make an impact on an ecosystem. Their numbers may increase if they are protected from fishing—commercial as well as sport—and if their habitats are shielded from development and pollution.

[1]vistas: views

Overfishing began in the Stone Age. For example, tens of millions of green turtles once lived in the Caribbean Sea. Now so few remain that the survival of the species is threatened. The turtle decline started three thousand years ago when humans settled the region. The turtles were agile in the water but they made easy prey for hunters when they lumbered up sandy beaches to lay eggs. The people came to rely on turtle meat and eggs as a major part of their diet.

On some islands, the turtles disappeared by 800 A.D. From the 1500s on, European settlers hastened the demise of the remaining turtle populations by harvesting them not only for food, but also for their skin to make leather, and their shells for use in jewelry and other ornaments.

49 According to "Too Many Fishermen," what is the **main** reason previously abundant marine environments have declined? Use **two** details from the article to support your answer.

50 The author of "Too Many Fishermen" describes certain place-names as "ghostly reminders." What does the author mean by using the words "ghostly reminders"? Use two details from the article to support your answer.

GO ON

51 "Monster Debris" and "Too Many Fishermen" both indicate that human beings are having a negative impact on ocean life. How does each author support this claim? Describe the evidence each author uses and evaluate the relevance and strength of the evidence. Use details from **both** articles to support your response.

In your response, be sure to
- identify the support given in each article that shows the negative impact human beings have had on the ocean environment
- evaluate the effectiveness, strength, and relevance of the support
- use details from **both** articles to support your response

THE STATE EDUCATION DEPARTMENT

THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234

2016 English Language Arts Tests Map to the Standards

Released Questions Available on EngageNY

Grade 8

Question	Type	Key	Points	Standard	Subscore	Secondary Standard(s)	Multiple-Choice Questions: Percentage of Students Who Answered Correctly (P-Value)	Constructed-Response Questions: Average Rating Earned	P-Value (Average Points Earned / Total Possible Points)
Book 1									
1	Multiple Choice	A	1	CCSS.ELA-Literacy.RL.8.1	Reading		0.59		
2	Multiple Choice	C	1	CCSS.ELA-Literacy.RL.8.1	Reading		0.58		
3	Multiple Choice	A	1	CCSS.ELA-Literacy.RL.8.1	Reading		0.96		
4	Multiple Choice	D	1	CCSS.ELA-Literacy.RL.8.3	Reading		0.89		
5	Multiple Choice	B	1	CCSS.ELA-Literacy.RL.8.3	Reading		0.63		
6	Multiple Choice	B	1	CCSS.ELA-Literacy.RL.8.5	Reading		0.73		
7	Multiple Choice	A	1	CCSS.ELA-Literacy.RL.8.2	Reading		0.75		
22	Multiple Choice	C	1	CCSS.ELA-Literacy.RL.8.3	Reading		0.72		
23	Multiple Choice	D	1	CCSS.ELA-Literacy.RL.8.4	Reading		0.69		
24	Multiple Choice	A	1	CCSS.ELA-Literacy.RL.8.1	Reading		0.55		
25	Multiple Choice	B	1	CCSS.ELA-Literacy.RL.8.3	Reading		0.52		
26	Multiple Choice	D	1	CCSS.ELA-Literacy.RL.8.6	Reading		0.63		
27	Multiple Choice	A	1	CCSS.ELA-Literacy.RL.8.6	Reading		0.73		
28	Multiple Choice	B	1	CCSS.ELA-Literacy.RL.8.2	Reading		0.57		
29	Multiple Choice	C	1	CCSS.ELA-Literacy.RI.8.4	Reading		0.61		
30	Multiple Choice	A	1	CCSS.ELA-Literacy.RI.8.1	Reading		0.75		
31	Multiple Choice	C	1	CCSS.ELA-Literacy.RI.8.3	Reading		0.65		
32	Multiple Choice	C	1	CCSS.ELA-Literacy.RI.8.3	Reading		0.53		
33	Multiple Choice	D	1	CCSS.ELA-Literacy.RI.8.8	Reading		0.67		
34	Multiple Choice	B	1	CCSS.ELA-Literacy.RI.8.5	Reading		0.59		
35	Multiple Choice	D	1	CCSS.ELA-Literacy.RI.8.2	Reading		0.60		
Book 2									
36	Multiple Choice	D	1	CCSS.ELA-Literacy.RI.8.3	Reading		0.54		

Grade 8

Released Questions Available on EngageNY

Question	Type	Key	Points	Standard	Subscore	Secondary Standard(s)	Multiple Choice Questions: Percentage of Students Who Answered Correctly (P-Value)	Constructed Response Questions: Average Points Earned	Constructed Response Questions: P-Value (Average Points Earned ÷ Total Possible Points)
37	Multiple Choice	A	1	CCSS.ELA-Literacy.RI.8.5	Reading		0.57		
38	Multiple Choice	C	1	CCSS.ELA-Literacy.RI.8.4	Reading		0.72		
39	Multiple Choice	D	1	CCSS.ELA-Literacy.RI.8.1	Reading		0.72		
40	Multiple Choice	D	1	CCSS.ELA-Literacy.RI.8.7	Reading		0.73		
41	Multiple Choice	[illegible]	1	CCSS.ELA-Literacy.RI.8.2	Reading		0.54		
42	Multiple Choice	B	1	CCSS.ELA-Literacy.RI.8.2	Reading		0.85		
43	Constructed Response	[illegible]	2	CCSS.ELA-Literacy.RL.8.3	Writing to Sources	CCSS.ELA-Literacy.W.8.2 CCSS.ELA-Literacy.W.8.9		1.46	0.73
44	Constructed Response	[illegible]	2	CCSS.ELA-Literacy.RL.8.3	Writing to Sources	CCSS.ELA-Literacy.W.8.2 CCSS.ELA-Literacy.W.8.9		1.50	0.75
45	Constructed Response	[illegible]	4	CCSS.ELA-Literacy.W.8.2, CCSS.ELA-Literacy.W.8.9, CCSS.ELA-Literacy.RL.8.3	Writing to Sources	CCSS.ELA-Literacy.L.8.1 CCSS.ELA-Literacy.L.8.2 CCSS.ELA-Literacy.L.8.3 CCSS.ELA-Literacy.L.8.6		2.37	0.59
Book 3									
46	Constructed Response	[illegible]	2	CCSS.ELA-Literacy.RL.8.4	Writing to Sources	CCSS.ELA-Literacy.W.8.2 CCSS.ELA-Literacy.W.8.9		1.55	0.78
47	Constructed Response	[illegible]	2	CCSS.ELA-Literacy.RL.8.6	Writing to Sources	CCSS.ELA-Literacy.W.8.2 CCSS.ELA-Literacy.W.8.9		1.49	0.74
48	Constructed Response	[illegible]	2	CCSS.ELA-Literacy.RI.8.2	Writing to Sources	CCSS.ELA-Literacy.W.8.2 CCSS.ELA-Literacy.W.8.9		1.71	0.86
49	Constructed Response	[illegible]	2	CCSS.ELA-Literacy.RI.8.1	Writing to Sources	CCSS.ELA-Literacy.W.8.2 CCSS.ELA-Literacy.W.8.9		1.59	0.80
50	Constructed Response	[illegible]	2	CCSS.ELA-Literacy.RI.8.4	Writing to Sources	CCSS.ELA-Literacy.W.8.2 CCSS.ELA-Literacy.W.8.9		1.43	0.71
51	Constructed Response	[illegible]	4	CCSS.ELA-Literacy.W.8.2, CCSS.ELA-Literacy.W.8.9, CCSS.ELA-Literacy.RI.8.8	Writing to Sources	CCSS.ELA-Literacy.L.8.1 CCSS.ELA-Literacy.L.8.2 CCSS.ELA-Literacy.L.8.3 CCSS.ELA-Literacy.L.8.6		2.58	0.65

*This item map is intended to identify the primary analytic skills necessary to successfully answer each question. However, each constructed-response question measures proficiencies described in multiple standards, including writing and additional reading and language standards. For example, two point and four point constructed-response questions require students to first conduct the analyses described in the mapped standard and then produce written responses that are rated based on writing standards. To gain greater insight into the measurement focus for constructed-response questions please refer to the rubrics shown in the Educator Guides.

GEORGIA MILESTONES

2017 Georgia Standards of Excellence Mathematics

GRADE 8

STUDY PACKET

ROCK THE TEST

1 Mr. Thomsen is buying two types of gift cards to give as prizes to employees at a company meeting. He will buy restaurant gift cards that each cost $50. He will also buy movie theater gift cards that each cost $20. He has $450 to buy a total of 15 gift cards. How many of each type of gift card can Mr. Thomsen buy?

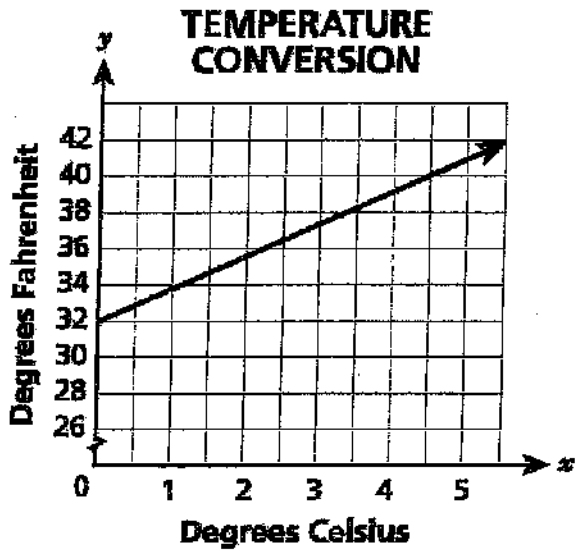
A He can buy 5 restaurant gift cards and 10 movie theater gift cards.

B He can buy 8 restaurant gift cards and 7 movie theater gift cards.

C He can buy 10 restaurant gift cards and 5 movie theater gift cards.

D He can buy 12 restaurant gift cards and 3 movie theater gift cards.

2 The relationship between temperature in degrees Fahrenheit and degrees Celsius is shown in the graph below.



What is the meaning of the *y*-intercept?

A the change in degrees Fahrenheit for every change of one degree Celsius

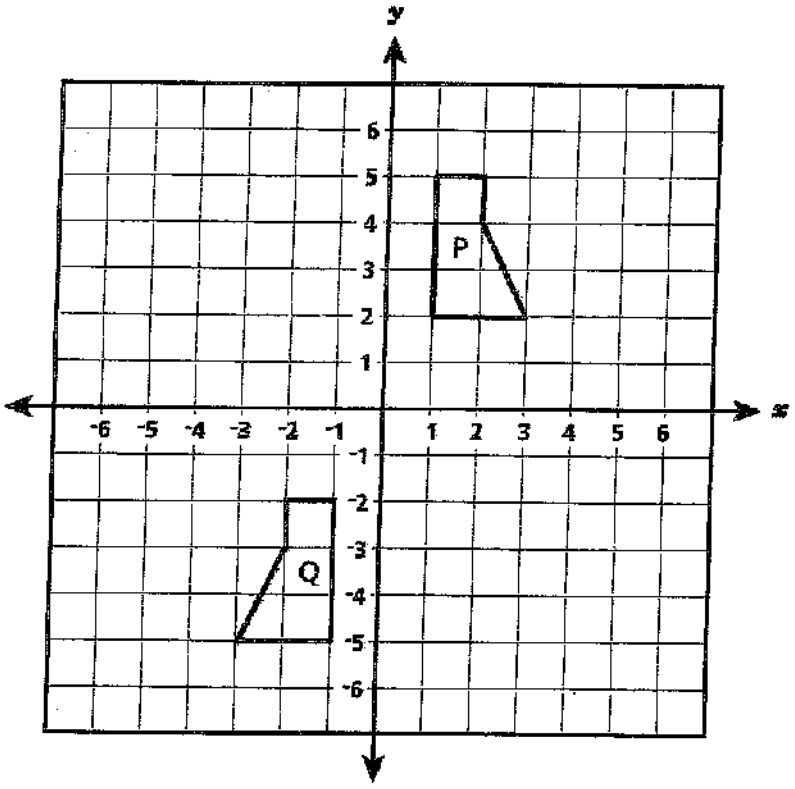
B the change in degrees Celsius for every change of one degree Fahrenheit

C the temperature in degrees Fahrenheit when the temperature is zero degrees Celsius

D the temperature in degrees Celsius when the temperature is zero degrees Fahrenheit

GO ON

4 Pentagon P and pentagon Q, shown below, are congruent.



Which sequence could be used to transform pentagon P to pentagon Q?

A a 180° clockwise rotation about the origin

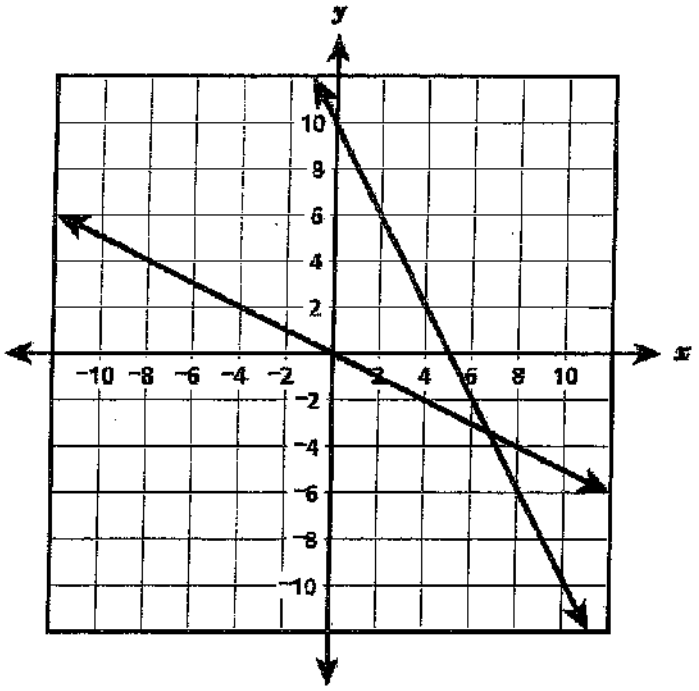
B a translation four units left and then a reflection over the *x*-axis

C a reflection over the *y*-axis and then a translation seven units down

D a translation seven units down and then a 90° clockwise rotation about the origin

GO ON

5 The graph of a system of equations is shown below.



What system of equations represents the graph?

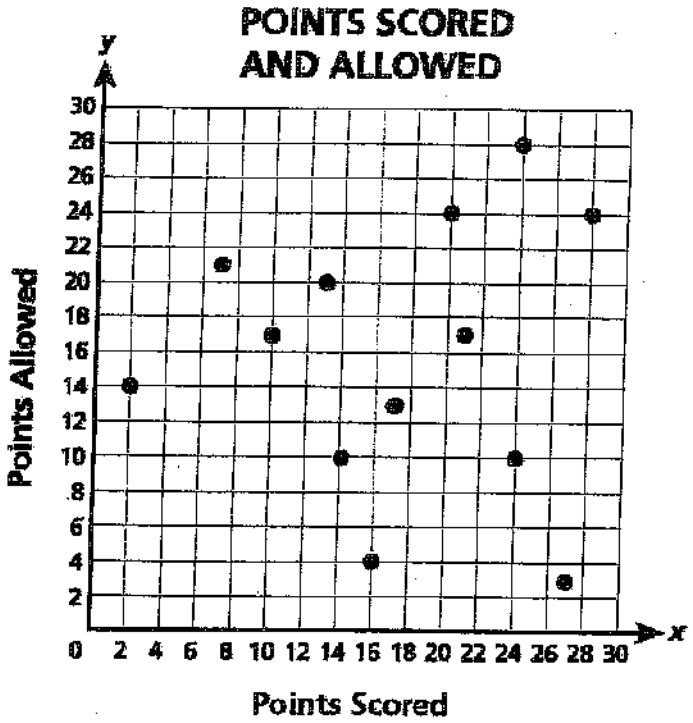
A $y = -2x + 10$
$y = -\frac{1}{3}x$

B $y = -2x + 10$
$y = -\frac{1}{2}x$

C $y = -\frac{1}{2}x + 10$
$y = -2x$

D $y = -\frac{1}{3}x + 10$
$y = -2x$

8 The scatter plot below shows the points scored and the points allowed by the Bulldogs football team for several games.



Which association (correlation) best describes the data?

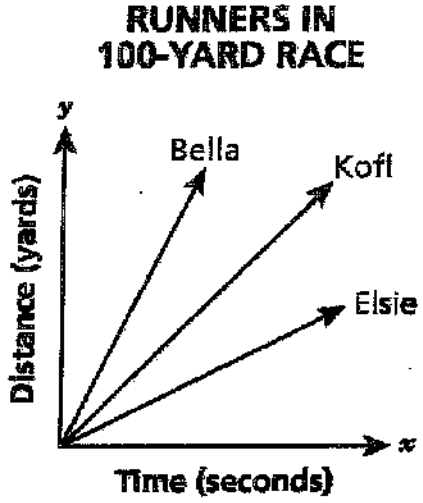
A no association (correlation)

B positive association (correlation)

C negative association (correlation)

D nonlinear association (correlation)

9 The graph below shows the relationship between the distances run and the time for three people in a 100-yard race.



The relationship between the distance run and the time for Kofi can be represented by the equation $y = 15.55x$, where he ran y yards in x seconds. Which two equations could be used to represent this relationship for Bella and Elsie?

A Bella: $y = 15.15x$; Elsie: $y = 15.85x$

B Bella: $y = 15.85x$; Elsie: $y = 15.65x$

C Bella: $y = 15.45x$; Elsie: $y = 15.15x$

D Bella: $y = 15.65x$; Elsie: $y = 15.15x$

10 Which table of values represents a linear function?

A

x	y
0	0
1	1
4	16
9	81

C

x	y
0	0
1	2
4	8
9	18

B

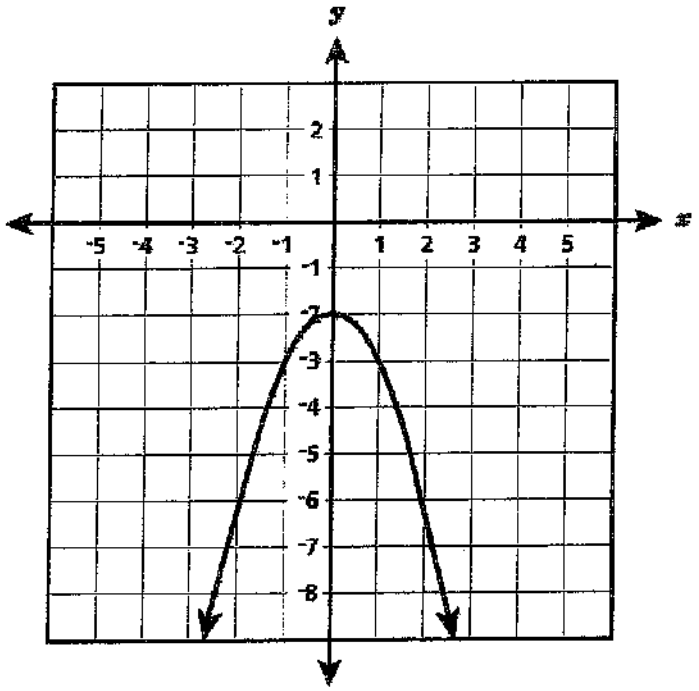
x	y
0	1
1	3
4	9
9	20

D

x	y
0	0
1	2
4	4
9	6

21 Function 1 is represented by the equation $y = -\frac{4}{5}x - 2$, and function 2 is represented by the graph below.

FUNCTION 2



For which of the functions are all the output values less than -1?

A both functions

B only function 1

C only function 2

D neither function

27 Solve the system of equations below.

$$2x + 4y = 10$$
$$2x + 4y = -10$$

A $x = 3,\ y = 1$

B $x = 6,\ y = -4$

C No solution

D Infinitely many solutions

29 Bianca and Nick are both musicians who sell their songs online. During the same year, Bianca sold 8×10^5 downloads of her songs and Nick sold 4×10^6 downloads of his songs. How many times as much is the number of songs that Nick sold than the number of songs that Bianca sold?

A 2

B 5

C 20

D 40

30 Which table represents a relation that is **not** a function?

A

Input	Output
1	1
2	1
3	1
4	1

C

Input	Output
−1	−7
−2	11
−3	13
−4	105

B

Input	Output
2	0
4	1
6	2
8	0

D

Input	Output
3	0
5	2
7	1
3	−4

37 Which equation represents a nonlinear function?

A $y = -3x + 1$

B $y = x^2 + 1$

C $y = \frac{x}{2} + 1$

D $y = 2x + \frac{1}{2}$

38 What is the value of the expression below?

$$\frac{(4.8 \times 10^8)}{(1.2 \times 10^4)} \times (2.2 \times 10^{-8})$$

A 0.88

B 0.088

C 0.0088

D 0.00088

39 A crane is lowering a concrete block from a height of 270 feet above the ground at a constant rate of 2.5 feet per second. Which function can be used to determine h, the height, in feet, above the ground of the concrete block after s seconds?

A $h = 270s + 2.5$

B $h = 2.5s + 270$

C $h = 270 - 2.5s$

D $h = 2.5s - 270$

40 Function P is a linear function with a y-intercept of 5. Function Q is defined by the equation $y = -\frac{1}{3}x + 4$. Which statement **must** be true about functions P and Q?

A Both functions have the same slope.

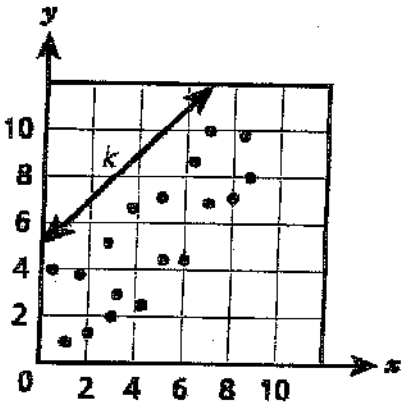
B Both functions have a negative slope.

C The functions will have the same input when $y = 0$.

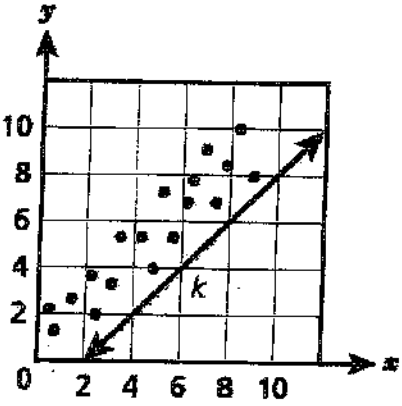
D The functions will have different outputs when $x = 0$.

41 Line k is the line of best fit for a set of data on a scatter plot. The data show a strong linear association. Which scatter plot **best** represents these data and line k?

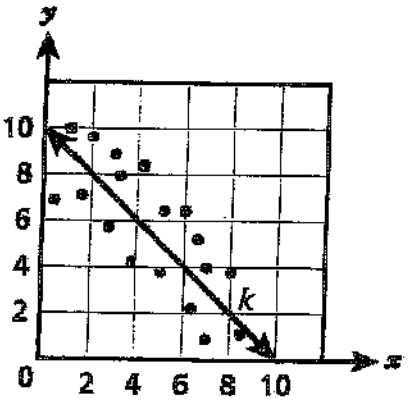
A



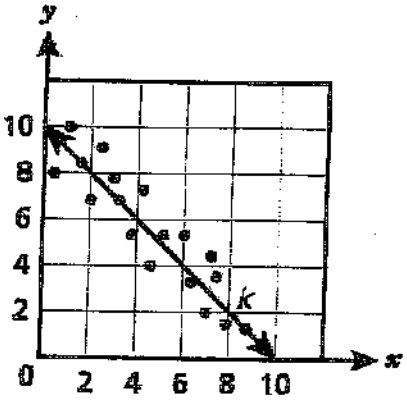
C



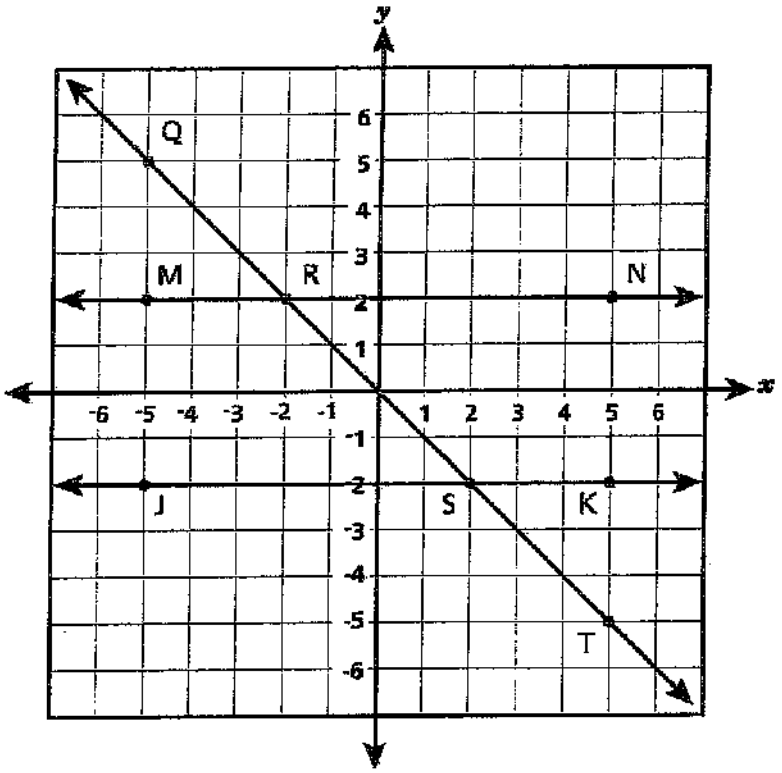
B



D



47 In the diagram below, lines MN and JK are parallel and are intersected by line QT.



Which transformation could be used to show that ∠**MRS** is congruent to ∠**JST**?

A reflect ∠**MRS** over the *x*-axis

B rotate ∠**MRS** about the origin

C translate ∠**MRS** down and to the right

D dilate ∠**MRS** by a scale factor of two with the center at point R

GO ON

56 A reporter collected data on y, the current market value, in dollars, of a certain car for various years, x, after it had been purchased new. The equation below was fit to the data.

$$y = 16{,}500 - 1{,}500x$$

What does the slope of the graph of this equation represent?

Answer

What does the y-intercept of the graph of this equation represent?

Answer

GO ON

59 Tim is selling tickets to a school sporting event to raise money for his club. He put some extra money in his box before he began. As he sells tickets, he records the number of tickets he has sold and the total amount of money in the box. Some of his data are shown below.

TOTAL AMOUNT OF MONEY FROM TICKET SALES

Number of Tickets Sold	Total Money in Box (dollars)
7	108.75
13	146.25
18	177.50

Assuming all the tickets are the same price, write an equation that represents the situation in the table. Explain how to use your equation to determine the amount of money originally in the box before any tickets were sold and the price of each ticket.

Show your work.

Answer

THE STATE EDUCATION DEPARTMENT

THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234

2016 Mathematics Tests Map to the Standards

Grade 8

Released Questions Available on EngageNY

Question	Type	Key	Points	Standard	Cluster	Secondary Standard(s)	Multiple Choice Questions: Percentage of Students Who Answered Correctly (P-Value)	Constructed Response Questions: Average Points Earned	Constructed Response Questions: P-Value (Average Points Earned / Total Possible Points)
Book 1									
1	Multiple Choice	A	1	CCSS.Math.Content.8.EE.C.8c	Expressions and Equations		0.83		
2	Multiple Choice	B	1	CCSS.Math.Content.8.F.B.4	Functions		0.51		
3	Multiple Choice	D	1	CCSS.Math.Content.8.EE.A.3	Expressions and Equations		0.46		
4	Multiple Choice	B	1	CCSS.Math.Content.8.G.A.2	Geometry		0.61		
5	Multiple Choice	C	1	CCSS.Math.Content.8.EE.C.8b	Expressions and Equations		0.58		
6	Multiple Choice	D	1	CCSS.Math.Content.8.G.C.9	Geometry		0.51		
7	Multiple Choice	A	1	CCSS.Math.Content.8.F.A.3	Functions		0.44		
8	Multiple Choice	A	1	CCSS.Math.Content.8.SP.A.1	Statistics and Probability		0.49		
9	Multiple Choice	D	1	CCSS.Math.Content.8.EE.B.5	Expressions and Equations		0.39		
10	Multiple Choice	C	1	CCSS.Math.Content.8.F.A.3	Functions		0.55		
11	Multiple Choice	A	1	CCSS.Math.Content.8.EE.A.1	Expressions and Equations		0.57		
12	Multiple Choice	C	1	CCSS.Math.Content.8.EE.C.7b	Expressions and Equations		0.51		
19	Multiple Choice	B	1	CCSS.Math.Content.8.EE.A.3	Expressions and Equations		0.55		
20	Multiple Choice	B	1	CCSS.Math.Content.8.G.A.4	Geometry		0.72		
21	Multiple Choice	C	1	CCSS.Math.Content.8.F.A.2	Functions		0.31		
22	Multiple Choice	A	1	CCSS.Math.Content.8.G.A.1a	Geometry		0.76		
Book 2									
27	Multiple Choice	C	1	CCSS.Math.Content.8.EE.C.8b	Expressions and Equations		0.66		
28	Multiple Choice	D	1	CCSS.Math.Content.8.G.A.3	Geometry		0.52		
29	Multiple Choice	C	1	CCSS.Math.Content.8.EE.A.3	Expressions and Equations		0.58		
30	Multiple Choice	C	1	CCSS.Math.Content.8.F.A.1	Functions		0.53		
34	Multiple Choice	D	1	CCSS.Math.Content.8.SP.A.4	Statistics and Probability		0.50		
35	Multiple Choice	A	1	CCSS.Math.Content.8.G.C.9	Geometry		0.60		
36	Multiple Choice	A	1	CCSS.Math.Content.8.EE.B.5	Expressions and Equations		0.48		
37	Multiple Choice	B	1	CCSS.Math.Content.8.F.A.3	Functions		0.67		
38	Multiple Choice	B	1	CCSS.Math.Content.8.EE.A.4	Expressions and Equations		0.54		

Grade 8

Released Questions Available on EngageNY

Question	Type	Key	Points	Standard*	Cluster	Secondary Standard(s)	Multiple Choice Questions: Percentage of Students Who Answered Correctly (P-Value)	Constructed Response Questions: Average Points Earned	Constructed Response Questions: P-Value (Average Points Earned ÷ Total Possible Points)
39	Multiple Choice	C	1	CCSS.Math.Content.8.F.B.4	Functions		0.41		
40	Multiple Choice	D	1	CCSS.Math.Content.8.F.A.2	Functions		0.48		
41	Multiple Choice	D	1	CCSS.Math.Content.8.SP.A.2	Statistics and Probability		0.74		
47	Multiple Choice	C	1	CCSS.Math.Content.8.G.A.5	Geometry	CCSS.Math.Content.8.G.A.1	0.42		
48	Multiple Choice	A	1	CCSS.Math.Content.8.EE.B.6	Expressions and Equations		0.43		
49	Multiple Choice	B	1	CCSS.Math.Content.8.F.A.2	Functions		0.45		
Book 3									
52	Constructed Response		2	CCSS.Math.Content.8.EE.A.1	Expressions and Equations			0.80	0.40
53	Constructed Response		2	CCSS.Math.Content.8.G.A.2	Geometry			0.74	0.37
54	Constructed Response		2	CCSS.Math.Content.8.F.A.3	Functions			0.76	0.38
55	Constructed Response		2	CCSS.Math.Content.8.EE.C.7a	Expressions and Equations	CCSS.Math.Content.8.G.A.1a		0.89	0.45
56	Constructed Response		2	CCSS.Math.Content.8.SP.A.3	Statistics and Probability			0.52	0.26
57	Constructed Response		2	CCSS.Math.Content.8.G.A.3	Geometry			0.76	0.38
58	Constructed Response		3	CCSS.Math.Content.8.EE.B.5	Expressions and Equations			0.82	0.27
59	Constructed Response		3	CCSS.Math.Content.8.F.B.4	Functions			0.68	0.23
60	Constructed Response		3	CCSS.Math.Content.8.G.A.4	Geometry	CCSS.Math.Content.8.G.A.3		0.74	0.25
61	Constructed Response		3	CCSS.Math.Content.8.EE.C.8c	Expressions and Equations			0.56	0.19

*This item map is intended to identify the primary analytic skills necessary to successfully answer each question. However, some questions measure proficiencies described in multiple standards, including a balanced combination of procedural and conceptual understanding.