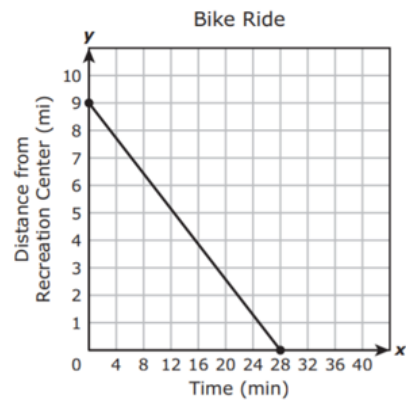
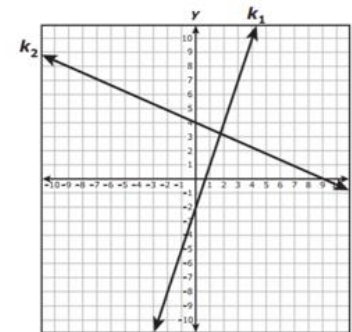


Algebra I EOC Release Items

Gallery Walk and Solve



x	y
-20	-268
-14	-196
-8	-124
-1	-40





2016

A.2A – 3 (R)

one Y

30 The total cost in dollars to buy uniforms for the players on a volleyball team can be found using the function $c = 34.95u + 6.25$, where u is the number of uniforms bought. If there are at least 8 players but not more than 12 players on the volleyball team, what is the domain of the function for this situation?

F $0 < u \leq 12$

G $0 < c \leq 425.65$

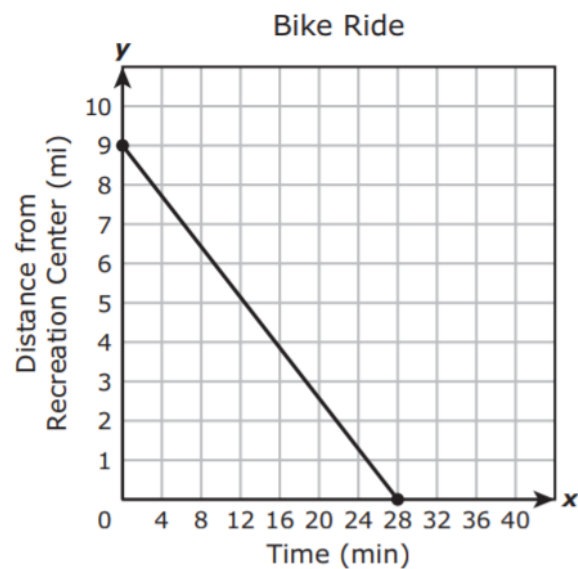
H $\{8, 9, 10, 11, 12\}$

J $\{285.85, 320.80, 355.75, 390.70, 425.65\}$

A.2A – 3 (R)

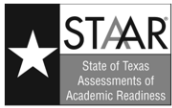
two X

- 44** A student rode a bike from school to a recreation center. The graph shows the student's distance in miles from the recreation center after riding the bike for x minutes.



What is the range of the function for this situation?

- F** All real numbers greater than or equal to 0 and less than or equal to 28
- G** All real numbers greater than or equal to 0 and less than or equal to 9
- H** All real numbers less than or equal to 28
- J** All real numbers less than or equal to 9



2017

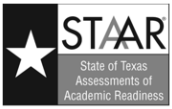
A.2A – 3 (R)

three X

- 5** A set of weights includes a 4 lb barbell and 6 pairs of weight plates. Each pair of plates weighs 20 lb. If x pairs of plates are added to the barbell, the total weight of the barbell and plates in pounds can be represented by $f(x) = 20x + 4$.

What is the range of the function for this situation?

- A** {0, 1, 2, 3, 4, 5, 6}
- B** {4, 24, 44, 64, 84, 104, 124}
- C** {0, 2, 4, 6}
- D** {4, 44, 84, 124}

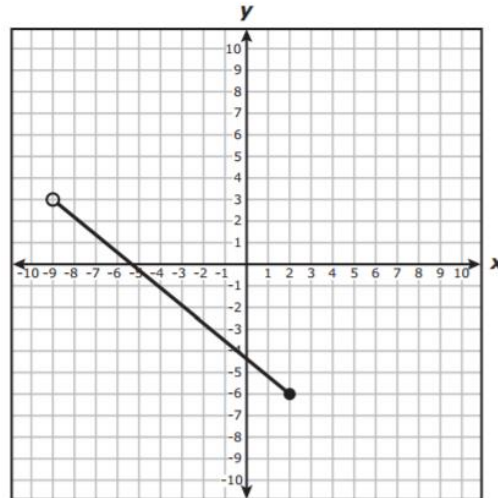


2017

A.2A – 3 (R)

four W

44 The graph of part of linear function g is shown on the grid.



Which inequality best represents the domain of the part shown?

F $-9 < x \leq 2$

G $-9 \leq x < 2$

H $-6 < g(x) \leq 3$

J $-6 \leq g(x) < 3$

A.2C – 3 (R)**five W**

5 The table represents some points on the graph of a linear function.

x	-7.5	-3.5	-1	2	3.5
y	12	0	-7.5	-16.5	-21

Which function represents the same relationship?

A $h(x) = -3x - 10.5$

B $h(x) = -x - 3.5$

C $h(x) = 3x - 10.5$

D $h(x) = x - 3.5$

A.2C – 3 (R)**six Z**

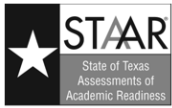
- 35** An organization has a monthly budget of x dollars. Every month \$2,070 is spent on salaries. One-fourth of the remaining budget is spent on monthly activities. Which function can be used to find the amount in dollars spent on monthly activities?

A $f(x) = 2,070 + \frac{x}{4}$

B $f(x) = 2,070 - \frac{x}{4}$

C $f(x) = \frac{x + 2,070}{4}$

D $f(x) = \frac{x - 2,070}{4}$



2017

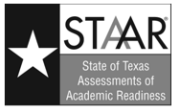
A.2C – 3 (R)

seven W

- 33** Researchers in Antarctica discovered a warm sea current under a glacier that is causing the glacier to melt. The ice shelf of the glacier had a thickness of approximately 450 m when it was first discovered. The thickness of the ice shelf is decreasing at an average rate of 0.06 m per day.

Which function can be used to find the thickness of the ice shelf in meters x days since the discovery?

- A** $t(x) = 450 - 0.06x$
- B** $t(x) = -0.06(x + 450)$
- C** $t(x) = 450 + 0.06x$
- D** $t(x) = 0.06(x + 450)$



2017

A.2C – 3 (R)

eight Y

50 The table represents some points on the graph of a linear function.

x	y
-20	-268
-14	-196
-8	-124
-1	-40

Which equation represents the same relationship?

F $y + 268 = \frac{1}{12}(x + 20)$

G $y + 20 = \frac{1}{12}(x + 268)$

H $y + 268 = 12(x + 20)$

J $y + 20 = 12(x + 268)$

A.2I – 3 (R)**nine W**

13 A sports magazine prints 12 issues per year, and a technology magazine prints 10 issues per year. The total number of pages in all the issues of the sports magazine for one year is 32 more than the total number of pages in all the issues of the technology magazine for one year. Each issue of the sports magazine has 18 fewer pages than each issue of the technology magazine. Which system of equations can be used to find s , the number of pages in each issue of the sports magazine, and t , the number of pages in each issue of the technology magazine?

A $s = t - 18$
 $12s = 10t + 32$

B $t = s - 18$
 $10t = 12s + 32$

C $s = t - 18$
 $10s = 12t + 32$

D $t = s - 18$
 $12t = 10s + 32$

A.2I – 3 (R)**ten Y**

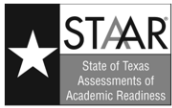
48 A bag contains 18 coins consisting of quarters and dimes. The total value of the coins is \$2.85. Which system of equations can be used to determine the number of quarters, q , and the number of dimes, d , in the bag?

F $0.10q + 0.25d = 2.85$
 $q + d = 18$

G $0.10q + 0.25d = 18$
 $q + d = 2.85$

H $0.25q + 0.10d = 2.85$
 $q + d = 18$

J $0.25q + 0.10d = 18$
 $q + d = 2.85$



2017

A.2I – 3 (R)

eleven W

- 2 A drummer and a guitarist each wrote songs for their band. The guitarist wrote 8 fewer than twice the number of songs that the drummer wrote. They wrote a total of 46 songs.

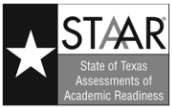
Which system of equations models this situation if the drummer wrote d songs and the guitarist wrote g songs?

F $g = 2d - 8$
 $g + d = 46$

G $g = 8 - 2d$
 $g = 46 - d$

H $d = 2g - 8$
 $d = 46 - g$

J $d = 8 - 2g$
 $d + g = 46$

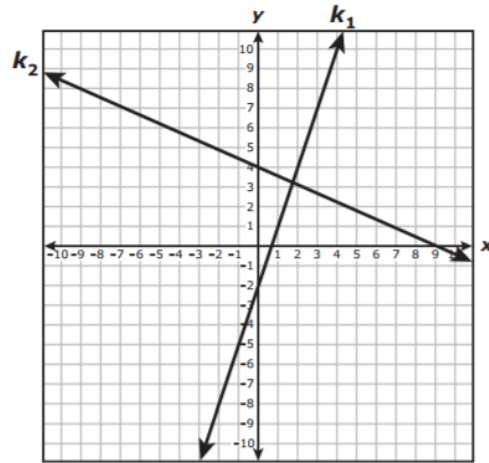


2017

A.2I – 3 (R)

twelve W

48 The graphs of lines k_1 and k_2 are shown on the grid.



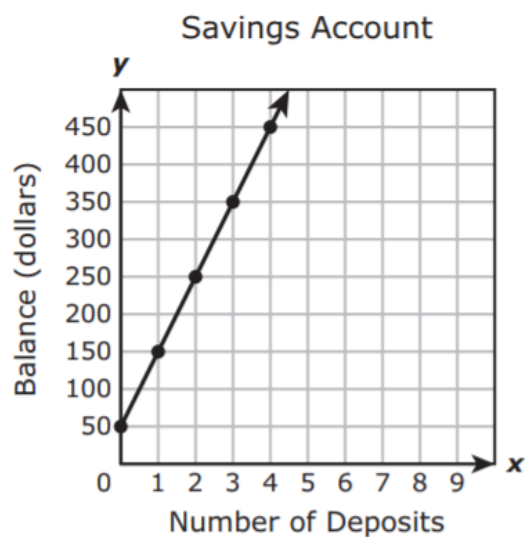
Which system of equations is best represented by this graph?

- F** $3x - y = 2$
 $4x + 9y = 36$
- G** $3x - y = 6$
 $4x + 9y = 4$
- H** $x - 3y = -18$
 $9x + 4y = 9$
- J** $x + y = 10$
 $9x + 4y = 13$

A.3B – 2 (R)

thirteen W

- 1** A savings account balance can be modeled by the graph of the linear function shown on the grid.



What is the rate of change of the balance with respect to the number of deposits?

- A** \$100 per deposit
- B** \$50 per deposit
- C** \$0.50 per deposit
- D** \$2 per deposit

A.3B – 2 (R)

fourteen X

19 The table represents some points on the graph of a linear function.

x	y
-2	12
0	3
3	-10.5
7	-28.5

What is the rate of change of y with respect to x for this function?

A $\frac{2}{9}$

B $-\frac{9}{2}$

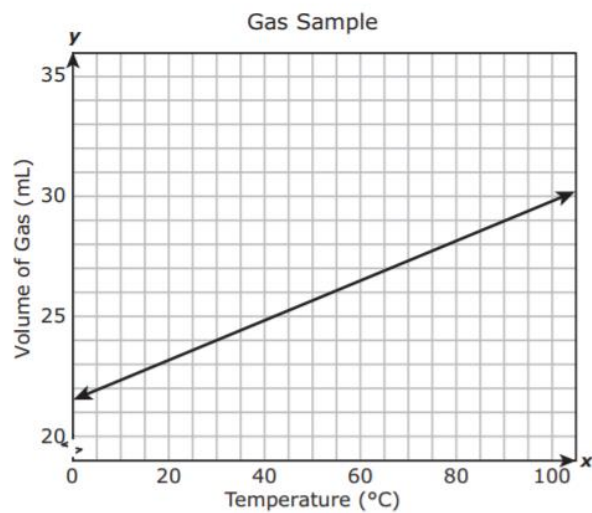
C $\frac{9}{2}$

D $-\frac{2}{9}$

A.3B – 2 (R)

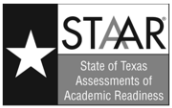
fifteen X

- 38** The graph shows how the volume of a gas sample changes as the temperature changes and the pressure remains constant.



Which of these best represents the rate of change in the volume of the gas sample with respect to the temperature?

- F $\frac{7}{100}$ mL/°C
- G $\frac{1}{12}$ mL/°C
- H 12 mL/°C
- J $22\frac{2}{5}$ mL/°C

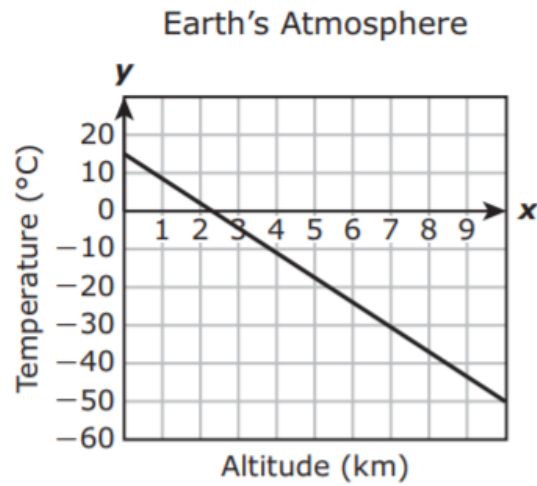


2017

A.3B – 2 (R)

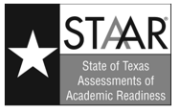
sixteen W

26 The graph models the linear relationship between the temperature of Earth’s atmosphere and the altitude above sea level.



Which of these best represents the rate of change of the temperature with respect to altitude?

- F $-6.5^{\circ}\text{C}/\text{km}$
- G $-3.5^{\circ}\text{C}/\text{km}$
- H $-0.29^{\circ}\text{C}/\text{km}$
- J $-0.15^{\circ}\text{C}/\text{km}$



2017

A.3B – 2 (R)

seventeen W

52 The function $y = 3.75 + 1.5(x - 1)$ can be used to determine the cost in dollars for a taxi ride of x miles. What is the rate of change of the cost in dollars with respect to the number of miles?

F \$1.50 per mile

G \$3.75 per mile

H \$4.25 per mile

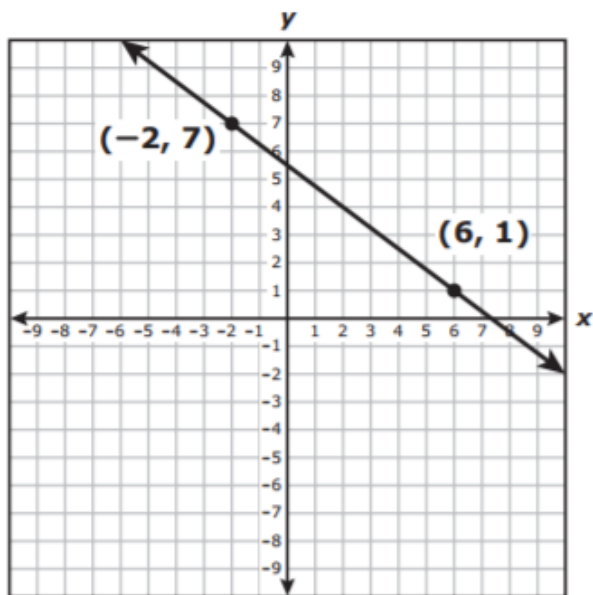
J \$5.25 per mile

A.3C – 2 (R)

Ans: 5.5

eighteen

14 What is the y-intercept of the line graphed on the grid?



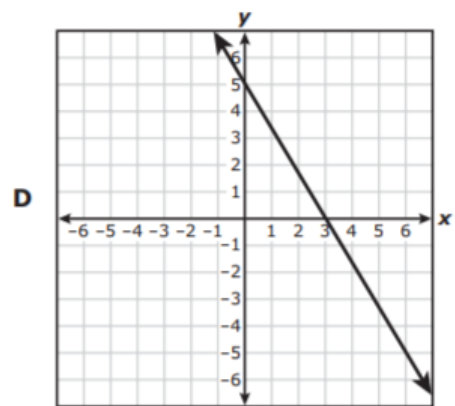
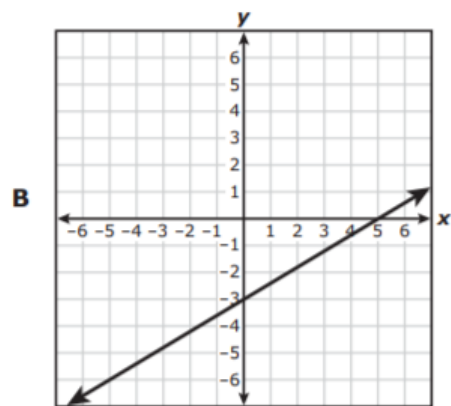
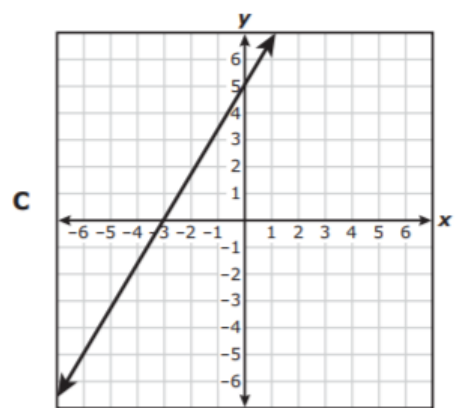
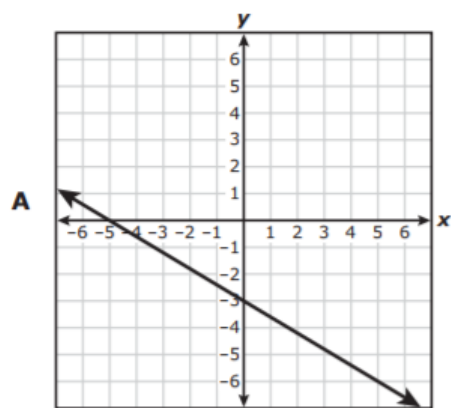
Record your answer and fill in the bubbles on your answer document.

+
-	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

A.3C – 2 (R)

nineteen X

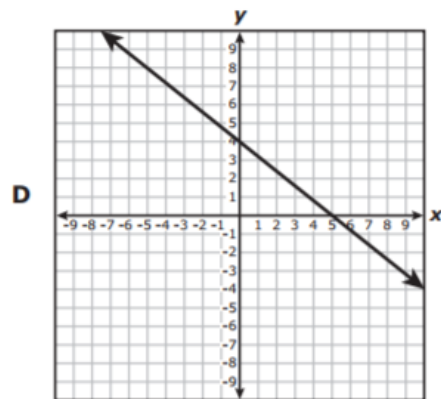
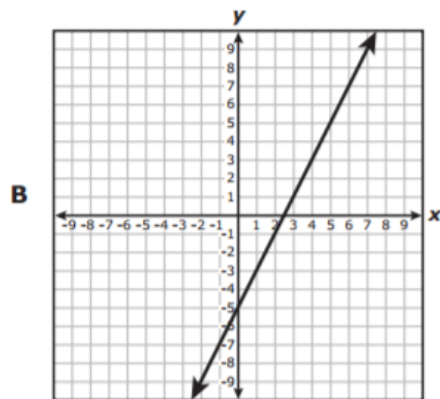
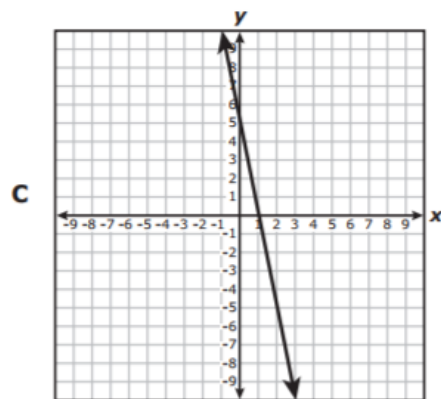
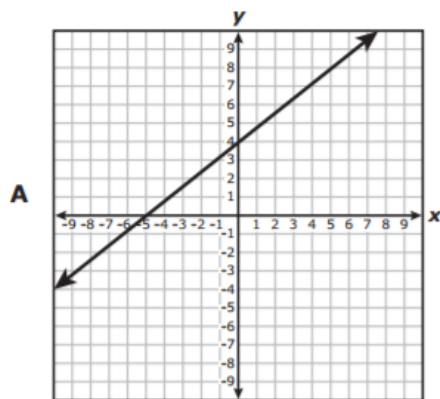
23 Which graph represents $-3x + 5y = -15$?

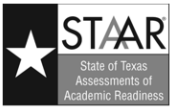


A.3C – 2 (R)

twenty W

43 Which graph shows a line with an x -intercept of -5 ?





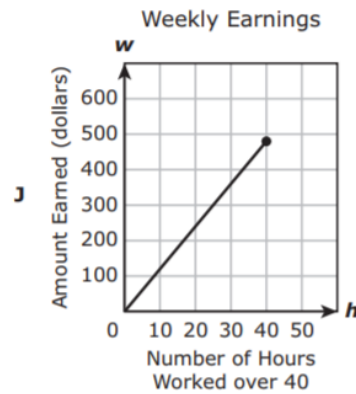
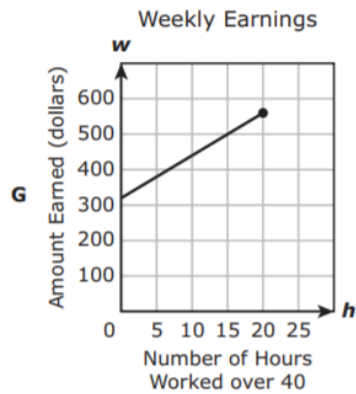
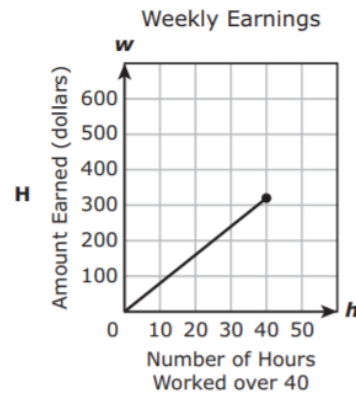
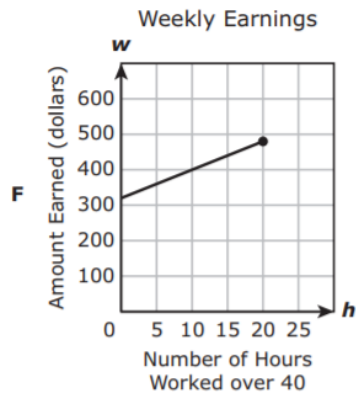
2017

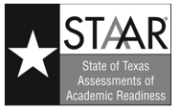
A.3C – 2 (R)

twenty one X

- 12 A lifeguard earns \$320 per week for working 40 hours plus \$12 per hour worked over 40 hours. A lifeguard can work a maximum of 60 hours per week.

Which graph best represents the lifeguard's weekly earnings in dollars for working h hours over 40?



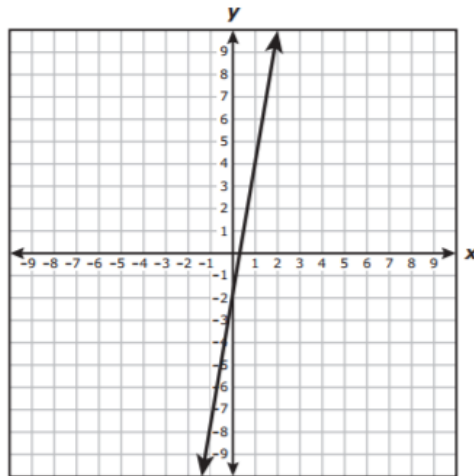


2017

A.3C – 2 (R)

twenty two X

32 The graph of a function is shown on the grid.



Which ordered pair best represents the location of the y-intercept?

F $(\frac{1}{3}, 0)$

G $(0, -2)$

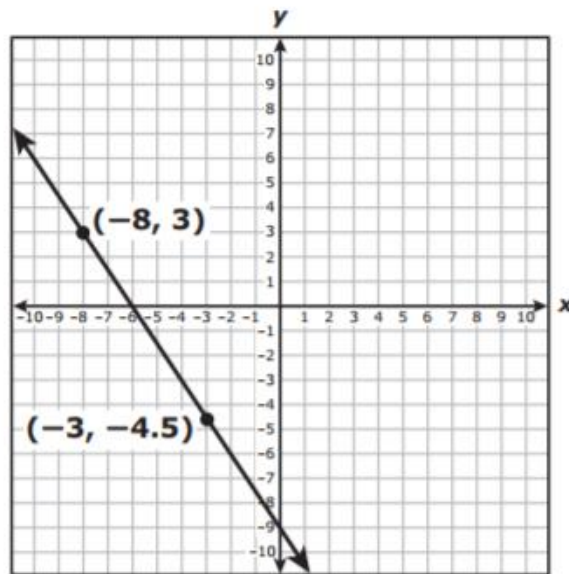
H $(0, \frac{1}{3})$

J $(-2, 0)$

A.3C – 2 (R)

twenty three

42 The graph of linear function g is shown on the grid.



What is the zero of g ?

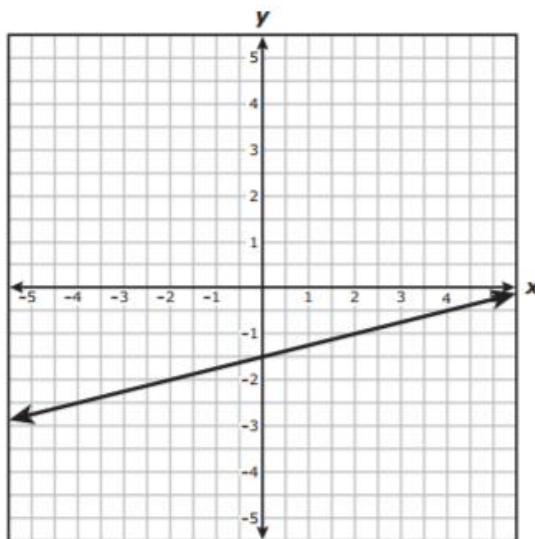
Record your answer and fill in the bubbles on your answer document.

$+$	\cdot	\cdot	\cdot	\cdot	\cdot	\cdot	\cdot
$-$	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

A.3D – 2 (R)

twenty four Y

7 The graph of $0.5x - 2y = 3$ is shown on the grid.



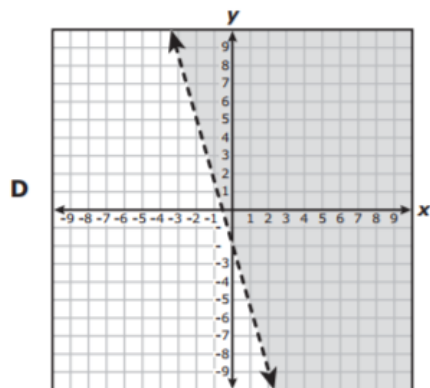
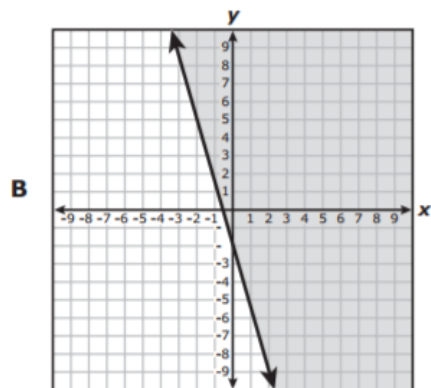
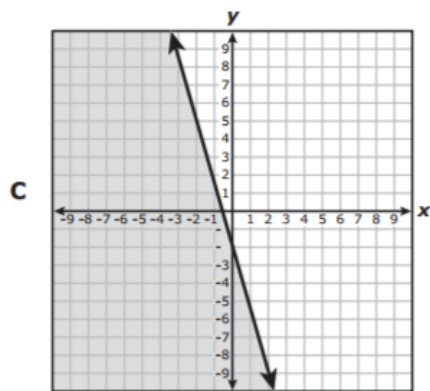
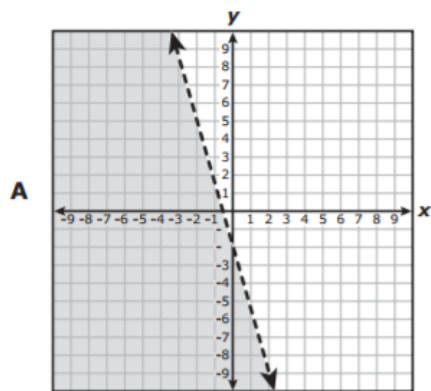
Which ordered pair is in the solution set of $0.5x - 2y \geq 3$?

- A** $(-2, 0.5)$
- B** $(2, 1)$
- C** $(2, -1)$
- D** $(-2, -0.5)$

A.3D – 2 (R)

twenty five X

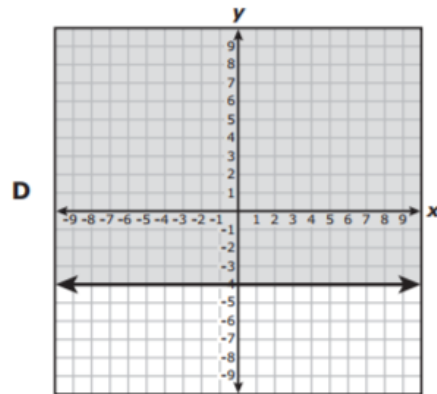
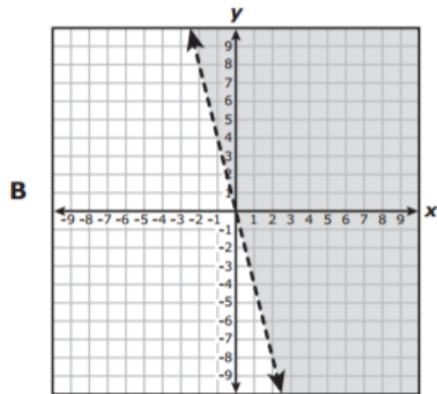
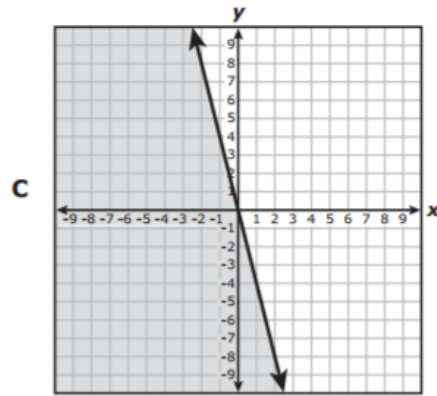
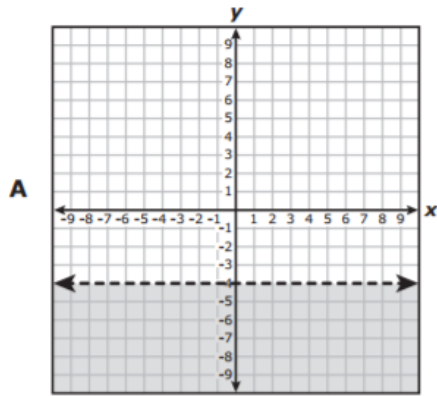
47 Which graph represents the solution set of $y \geq -\frac{7}{2}x - 2$?

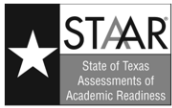


A.3D – 2 (R)

twenty six Y

3 Which graph best represents the solution set of $y \leq -4x$?



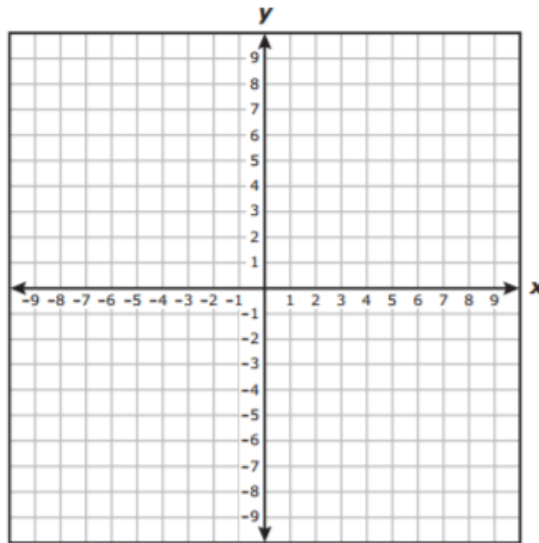


2017

A.3D – 2 (R)

twenty seven X

37 Which ordered pair is in the solution set of $y \geq \frac{1}{3}x + 4$?



- A** (-6, 1)
- B** (-1, 6)
- C** (6, -1)
- D** (1, -6)

A.5A – 3 (R)

twenty eight Z

8 What value of x makes the equation $-5x - (-7 - 4x) = -2(3x - 4)$ true?

F $x = 3$

G $x = 5$

H $x = \frac{1}{3}$

J $x = \frac{1}{5}$



A.5A – 3 (R)

twenty nine Y

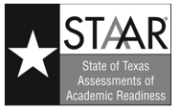
52 What is the solution to $0.3(12x - 16) = 0.4(12 - 3x)$?

F -2

G 4

H 2

J -4



2017

A.5A – 3 (R)

thirty Y

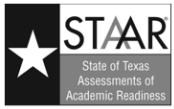
11 What is the solution to $8x - 3(2x - 4) = 3(x - 6)$?

A 6

B 2

C 30

D No solution



2017

A.5A – 3 (R)

thirty one Z

40 Which value of x makes the equation $0.75(x + 20) = 2 + 0.5(x - 2)$ true?

F 64

G -64

H 56

J -56

A.5C – 3 (R)

Ans: 13

thirty two

- 20** A manager purchased a total of 21 coffee mugs and key chains. Each coffee mug cost \$8.50, and each key chain cost \$2.75. If the manager spent a total of \$132.50, how many coffee mugs did the manager purchase?

Record your answer and fill in the bubbles on your answer document.

+
-	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
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	9	9	9	9	9	9	9

A.5C – 3 (R)

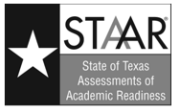
thirty three W

39 What is the solution to this system of equations?

$$10x - y = 53$$

$$y = \frac{-13x + 92}{2}$$

- A** (6, 7)
- B** (2, 33)
- C** (7, 6)
- D** (33, 2)



2017

A.5C – 3 (R)

twenty four X

18 A bus travels two different routes: the Green Route and the Blue Route. The routes are different lengths.

- On Monday the bus traveled the Green Route 6 times and the Blue Route 5 times, traveling a total of 52 miles.
- On Tuesday the bus traveled the Green Route 12 times and the Blue Route 13 times, traveling a total of 119 miles.

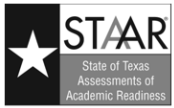
What is the length of the Green Route in miles?

F 4.4 mi

G 4.5 mi

H 6.4 mi

J 6.8 mi



2017

A.5C – 3 (R)

twenty five X

54 What is the value of x in the solution to this system of equations?

$$y + 2x = -1$$

$$y = \frac{1}{2}x + 4$$

F $\frac{6}{5}$

G -2

H $-\frac{10}{3}$

J 3



2018

A.5C – 3 (R)

twenty six W

- 15 Two customers went to a post office to buy postcards and large envelopes. Each postcard costs the same amount, and each large envelope costs the same amount.
- The first customer paid \$12 for 14 postcards and 5 large envelopes.
 - The second customer paid \$24.80 for 10 postcards and 15 large envelopes.

What was the cost in dollars of each large envelope?

- A \$1.42
- B \$0.35
- C \$1.15
- D \$0.63



2018

5C – 3 (R)

twenty seven Y

52 What is the x -value of the solution to this system of equations?

$$\begin{aligned}x &= 2y - 4 \\7x + 5y &= -66\end{aligned}$$

F -2

G $-\frac{19}{7}$

H -8

J $\frac{62}{19}$

A.6A – 4 (R)

twenty eight Y

12 The table shows some ordered pairs that belong to quadratic function h .

x	-4	-2	0	2	3	4	6
$h(x)$	41	17	1	-7	-8	-7	1

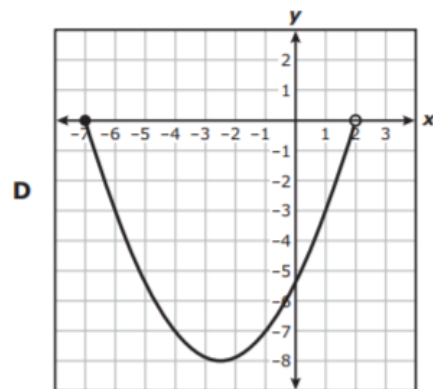
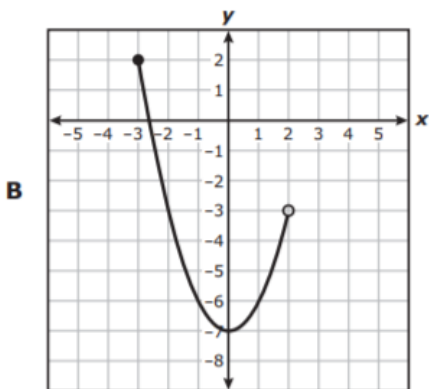
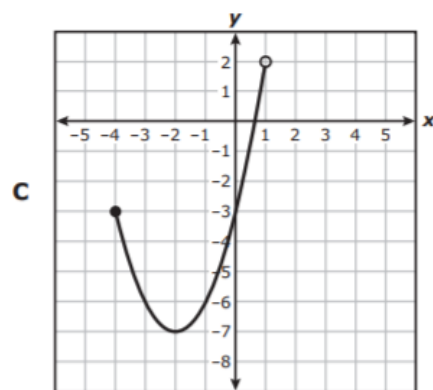
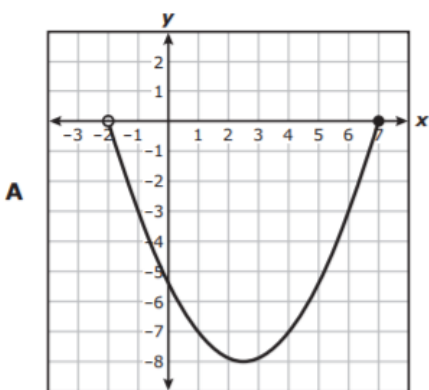
What is the range of h ?

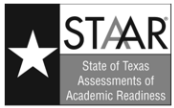
- F All real numbers
- G All real numbers greater than or equal to -7
- H All real numbers greater than or equal to -8
- J All real numbers greater than or equal to 0

A.6A – 4 (R)

twenty nine Z

53 Which graph represents a function with a domain of all real numbers greater than or equal to -7 and less than 2 ?





2017

A.6A – 4 (R)

thirty X

30 What is the domain of $f(x) = 9 - x^2$?

F $f(x) \geq 9$

G All real numbers

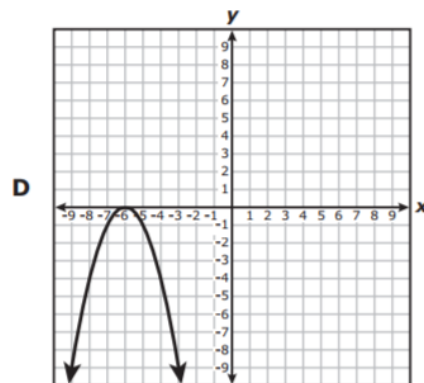
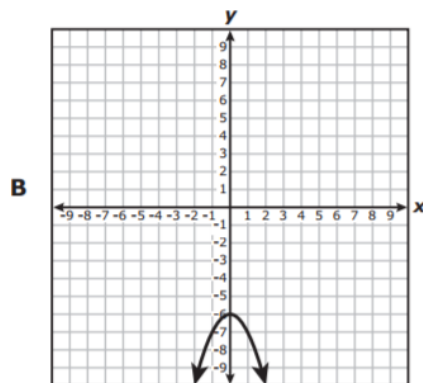
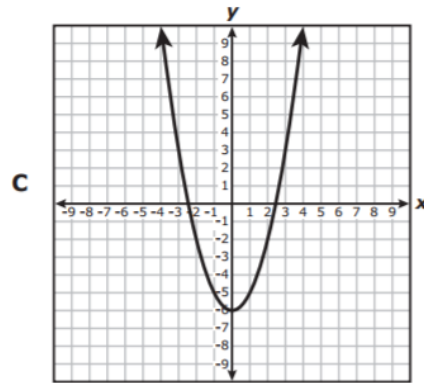
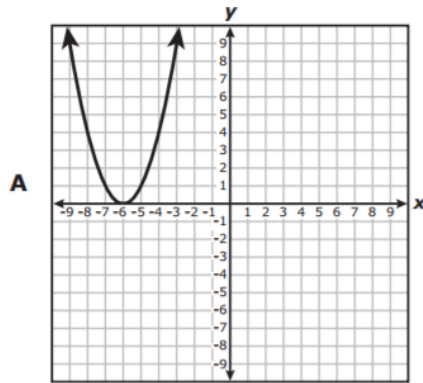
H $-3 \leq x \leq 3$

J $x \leq 9$

A.6A – 4 (R)

thirty one Y

53 Which graph best represents a function with a range of all real numbers greater than or equal to -6 ?

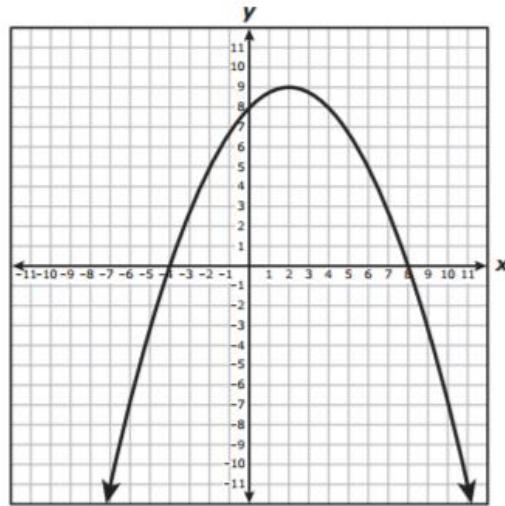


A.7A – 4 (R)

Ans: 4

thirty two

- 34** The graph of quadratic function g is shown on the grid. The coordinates of the x -intercepts, the y -intercept, and the vertex are integers.



What is the maximum value of g ?

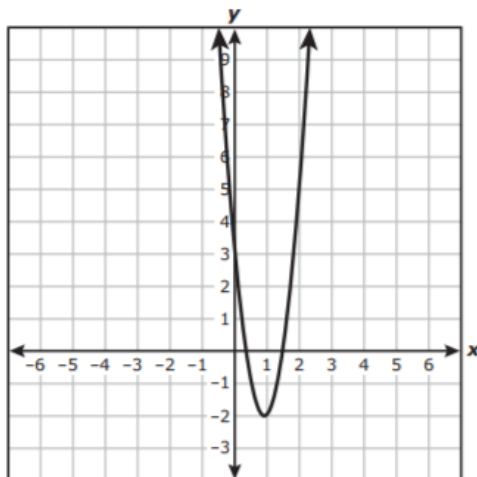
Record your answer and fill in the bubbles on your answer document.

+
-	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

A.7A – 4 (R)

thirty three Z

45 A graph of $f(x) = 6x^2 - 11x + 3$ is shown on the grid.



What are the zeros of f ?

A 3

B 2 and 9

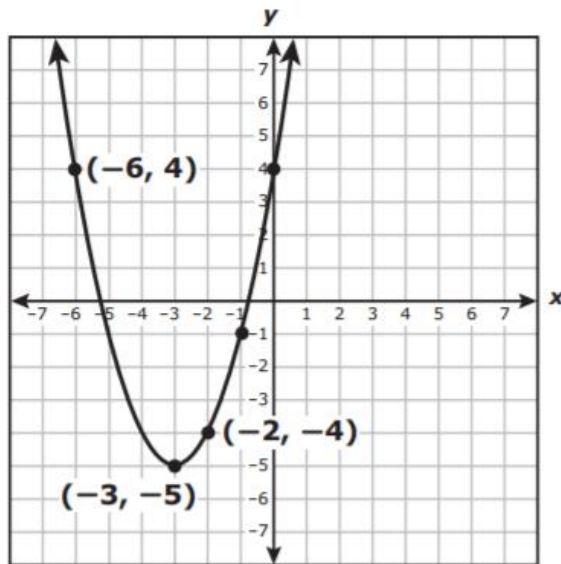
C $\frac{11}{12}$

D $\frac{1}{3}$ and $\frac{3}{2}$

A.7A – 4 (R)

thirty four

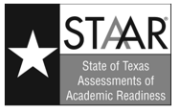
14 The graph of quadratic function f is shown on the grid.



What is the y -intercept of the graph of f ?

Record your answer and fill in the bubbles on your answer document.

+	·	·	·	·	·	·	·
-	0	0	0	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

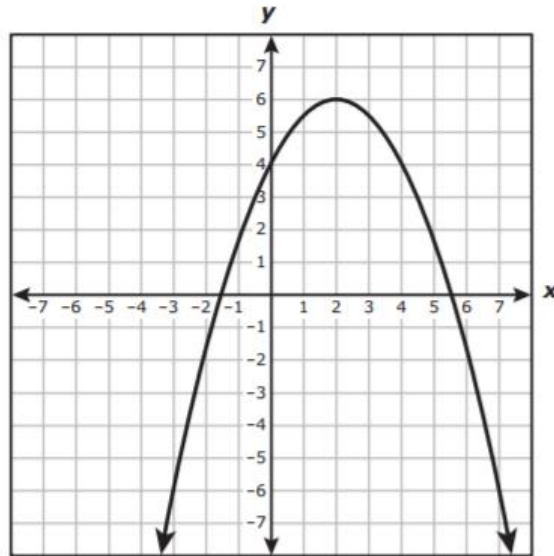


2017

A.7A – 4 (R)

thirty five X

46 The graph of a quadratic function is shown on the grid.



Which equation best represents the axis of symmetry?

F $y = 6$

G $x = 2$

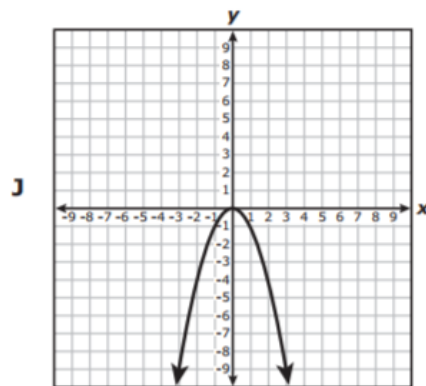
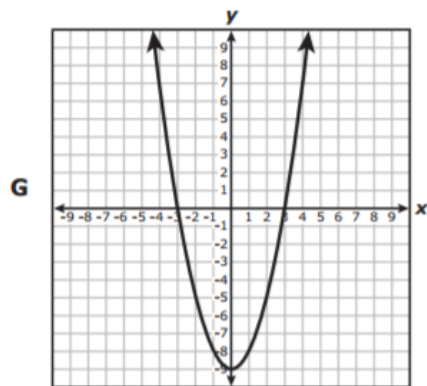
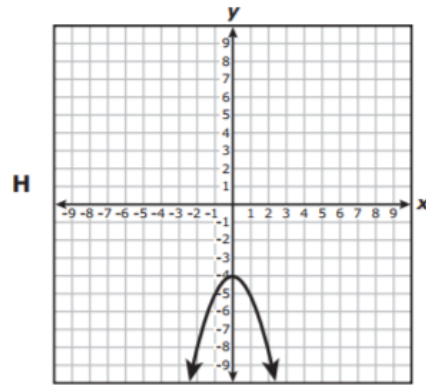
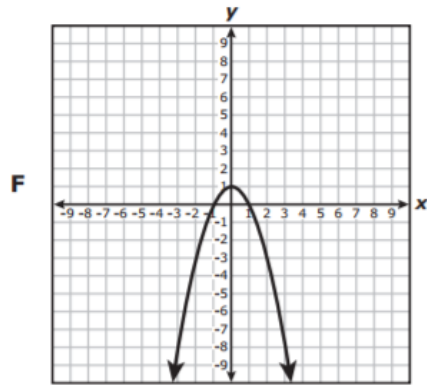
H $y = 4$

J $x = 0$

A.7C – 4 (R)

thirty six Y

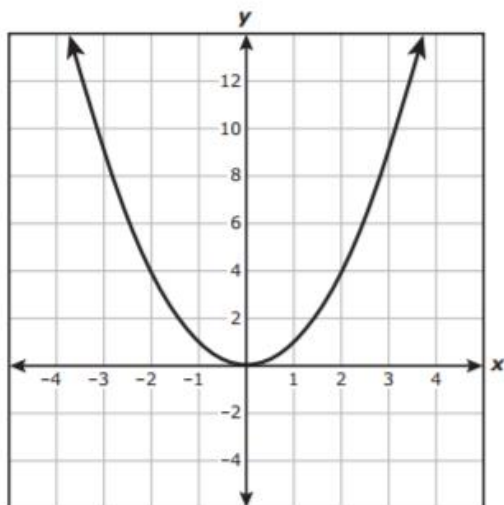
- 4 Function p is in the form $y = ax^2 + c$. If the values of a and c are both less than 0, which graph could represent p ?



A.7C – 4 (R)

thirty seven W

24 The graph of $f(x) = x^2$ is shown on the grid.



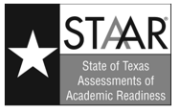
Which statement about the relationship between the graph of f and the graph of $g(x) = 7x^2$ is true?

- F** The graph of g is narrower than the graph of f .
- G** The graph of g is wider than the graph of f .
- H** The graph of g is 7 units below the graph of f .
- J** The graph of g is 7 units above the graph of f .

A.7C – 4 (R)**thirty eight Z**

41 Quadratic functions q and w are graphed on the same coordinate grid. The vertex of the graph of q is 18 units below the vertex of the graph of w . Which pair of functions could have been used to create the graphs of q and w ?

- A** $q(x) = 18x^2$ and $w(x) = x^2$
- B** $q(x) = x^2 + 18$ and $w(x) = x^2$
- C** $q(x) = -18x^2$ and $w(x) = x^2$
- D** $q(x) = x^2 - 18$ and $w(x) = x^2$



2017

A.7C – 4 (R)

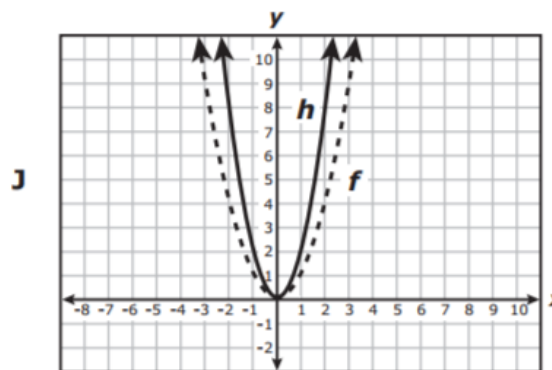
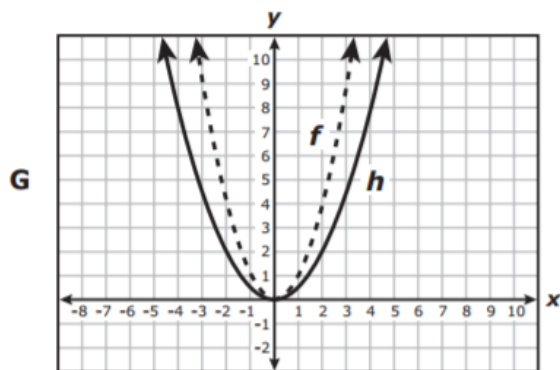
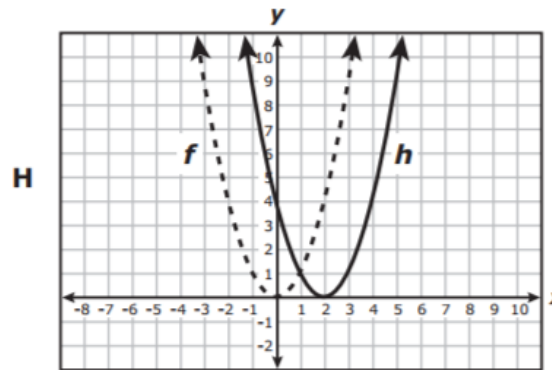
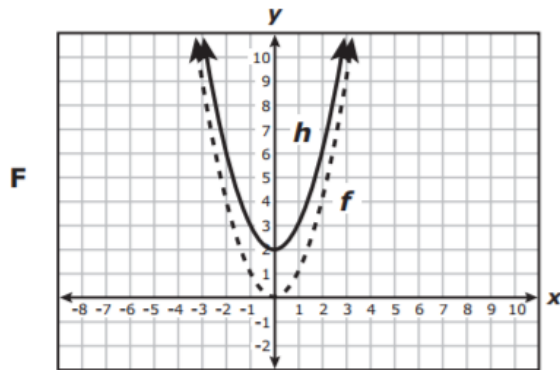
thirty nine W

- 4 The graph of $f(x) = x^2$ was transformed to create the graph of $g(x) = (x - 7.5)^2$. Which of these describes this transformation?
- F** A horizontal shift to the right 7.5 units
 - G** A horizontal shift to the left 7.5 units
 - H** A vertical shift down 56.25 units
 - J** A vertical shift up 56.25 units

A.7C – 4 (R)

forty Z

- 24** The graph of $f(x) = x^2$ is transformed to create the graph of $h(x) = 2f(x)$. Which graph best represents f and h ?





2016

A.8A – 4 (R)

forty one Y

29 What are the solutions to $2(x - 7)^2 = 32$?

A $x = 7 \pm \sqrt{32}$

B $x = \pm \sqrt{65}$

C $x = 3$ and $x = 11$

D $x = -1$ and $x = 15$

A.8A – 4 (R)

forty two Z

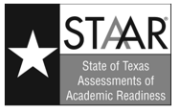
22 The sum of the first n consecutive even numbers can be found using $S = n^2 + n$, where $n \geq 2$.
What is the value of n when the sum is 156?

F 6

G 39

H 26

J 12



2017

A.8A – 4 (R)

forty three Z

7 The total number of seats in an auditorium is modeled by $f(x) = 2x^2 - 6x$, where x represents the number of rows of seats. How many rows are there in the auditorium if it has a total of 416 seats?

A 32

B 13

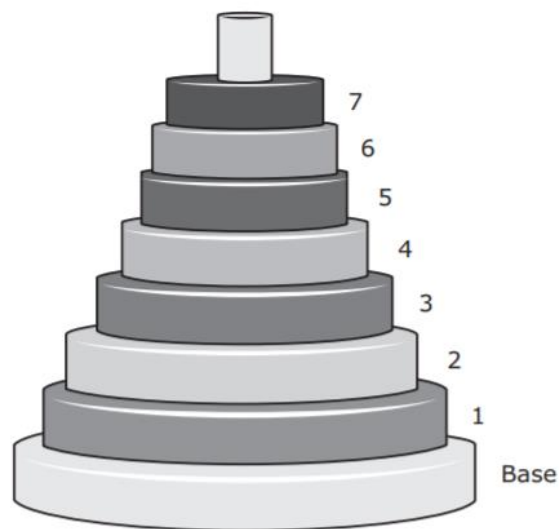
C 20

D 16

A.9C – 5 (R)

forty five W

- 28** A toy is made up of cylindrical rings stacked on a base, as shown in the diagram. The diameter of Ring 1 is 87% of the diameter of the base. For Ring 2 through Ring 7, the diameter of each ring is 87% of the diameter of the ring directly below it.



The diameter of the base is 5 inches. Which function can be used to find the diameter in inches of Ring r , where $1 \leq r \leq 7$?

- F** $d(r) = 5(0.87)^r$
G $d(r) = 0.87(r - 5)$
H $d(r) = 0.87(5)^r$
J $d(r) = 5(r - 0.87)$

A.9C – 5 (R)**forty six Y****40** The table contains some points on the graph of an exponential function.

x	y
0	0.0625
1	0.25
2	1
3	4

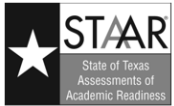
Based on the table, which function represents the same relationship?

F $q(x) = (0.25)^x$

G $q(x) = 256(0.25)^x$

H $q(x) = 0.0625(4)^x$

J $q(x) = 0.5(4)^x$



2017

A.9C – 5 (R)

forty seven X

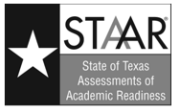
15 A particular type of cell doubles in number every hour. Which function can be used to find the number of cells present at the end of h hours if there are initially 4 of these cells?

A $n = 4\left(\frac{1}{2}\right)^h$

B $n = 4(2)^h$

C $n = 4 + (2)^h$

D $n = 4 + \left(\frac{1}{2}\right)^h$



2017

A.9C – 5 (R)

forty eight Y

35 The amount of fertilizer in a landscaping company's warehouse decreases at a rate of 3% per week. The amount of fertilizer in the warehouse was originally 78,000 cubic yards.

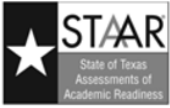
Which function models the amount of fertilizer in cubic yards left after w weeks?

A $f(w) = 0.97(78,000)^w$

B $f(w) = 1.03(78,000)^w$

C $f(w) = 78,000(0.97)^w$

D $f(w) = 78,000(1.03)^w$

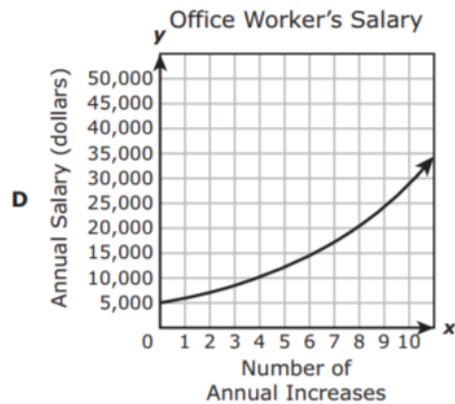
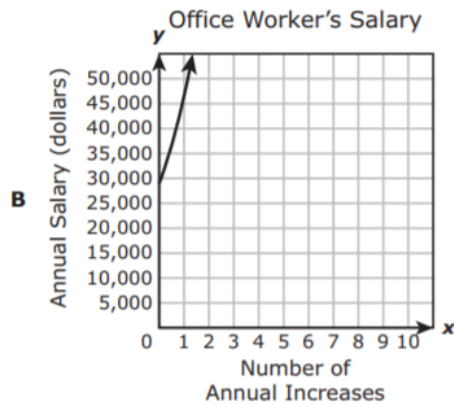
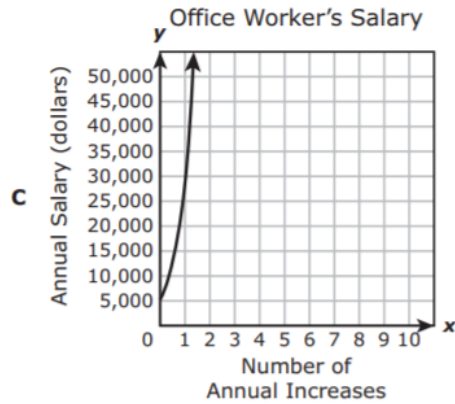
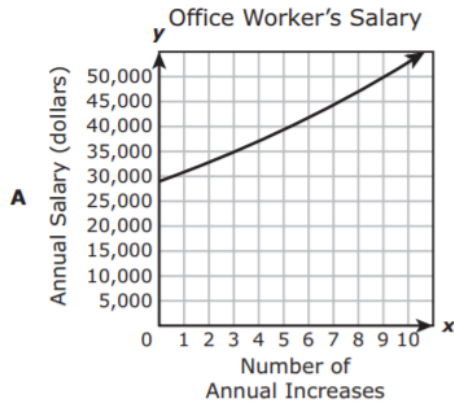


2016

A.9D – 5 (R)

forty nine W

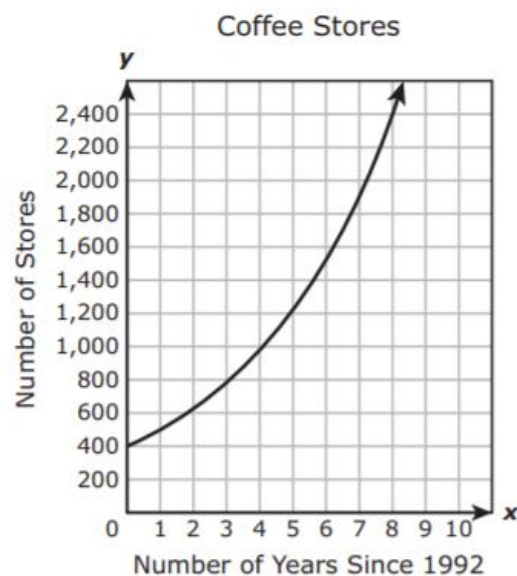
- 9 The starting annual salary for an office worker at a company is \$29,000. If the company awards an annual increase of 6.2%, which graph models this situation after the office worker receives x annual increases?



A.9D – 5 (R)

fifty Z

- 50** The number of stores opened by a coffee company can be modeled by the exponential function graphed on the grid, where x is the number of years since 1992.



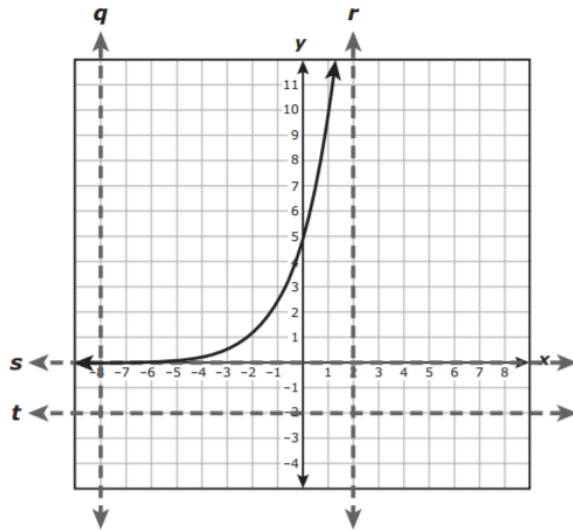
Based on the graph, which statement does **not** appear to be true?

- F** The coffee company had opened 400 stores by the end of 1992.
- G** The coffee company opened 100 stores in one year.
- H** Every year the number of stores the coffee company opened increased by 25%.
- J** Since 1992 the coffee company has opened 250 stores each year.

A.9D – 5 (R)

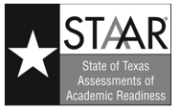
fifty one Y

8 The graph of an exponential function is shown on the grid.



Which dashed line is an asymptote for the graph?

- F** Line q
- G** Line r
- H** Line s
- J** Line t



2017

A.9D – 5 (R)

fifty two Z

49 Which statement about the graph of $y = \frac{1}{3}\left(\frac{2}{3}\right)^x$ is true?

- A The graph has a vertical asymptote.
- B The graph crosses the y -axis at $(0, \frac{2}{9})$.
- C The graph has an asymptote at $y = \frac{1}{3}$.
- D The graph decreases from left to right.

A.10E – 1 (R)

fifty three Z

6 Which expression is equivalent to $2x^2 + 7x + 4$?

F $(2x - 1)(x + 4)$

G $(2x + 1)(x - 4)$

H $(2x + 1)(x + 4)$

J None of these

A.10E – 1 (R)

fifty four W

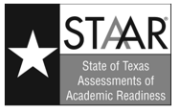
49 Which expression is a factor of $x^2 - 5x - 6$?

A $x - 6$

B $x - 2$

C $x - 3$

D $x - 1$



2017

A.10E – 1 (R)

fifty five Y

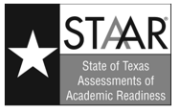
17 Which expression is equivalent to $6x^2 + 13x + 5$?

A $(2x + 5)(3x - 1)$

B $(2x - 5)(3x + 1)$

C $(2x + 1)(3x + 5)$

D $(2x - 1)(3x - 5)$



2017

A.10E– 1 (R)

fifty six W

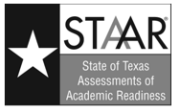
28 Which expression is equivalent to $m^2 - 13m - 30$?

F $(m - 15)(m + 2)$

G $(m - 10)(m - 3)$

H $(m + 15)(m - 2)$

J $(m + 10)(m + 3)$



2017

A.10E – 1 (R)

fifty seven W

41 Which expression is a factor of $18x^2 - 15x + 2$?

A $3x - 2$

B $9x - 1$

C $x - 2$

D $2x - 1$



2018

A.10E – 1 (R)

fifty eight W

11 Which expression is equivalent to $x^2 - 17x - 60$?

A $(x - 20)(x + 3)$

B $(x - 5)(x - 12)$

C $(x - 20)(x - 3)$

D $(x + 5)(x - 12)$



2018

A.10E – 1 (R)

fifty nine X

31 Which expression is a factor of $21x^2 + 13x - 20$?

A $3x - 4$

B $7x - 5$

C $7x + 4$

D $3x + 5$



2018

A.10E – 1 (R)

sixty nine Z

44 Which expression is a factor of $9r^2 - 4r + 1$?

F $3r - 1$

G $r - 1$

H $9r - 1$

J There are no real factors.

A.11B – 1 (R)

sixty one Y

10 Which expression is equivalent to $\frac{14a^4b^6c^{-10}}{8a^{-2}b^3c^{-5}}$?

F $\frac{7a^2b^3}{4c^{15}}$

G $\frac{6a^2b^9}{c^{15}}$

H $\frac{7a^6b^3}{4c^5}$

J $\frac{7b^2c^2}{4a^2}$

A.11B – 1 (R)

sixty two X

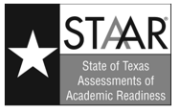
31 A circle has a radius of $6x^9y^5$ cm. The area of a circle can be found using $A = \pi r^2$. What is the area of this circle in square centimeters?

A $12\pi x^{18}y^{10}$

B $36\pi x^{18}y^{10}$

C $36\pi x^{11}y^7$

D $12\pi x^{11}y^7$



2017

A.11B – 1 (R)

sixty three Y

6 The area of a rectangle is $54x^9y^8$ square yards. If the length of the rectangle is $6x^3y^4$ yards, which expression represents the width of the rectangle in yards?

F $9x^3y^2$

G $48x^6y^4$

H $9x^6y^4$

J $60x^{12}y^{12}$

A.11B – 1 (R)

sixty five X

51 Which expression is equivalent to $(7x^3)^2(x^8)^{\frac{1}{2}}$?

A $14x^{10}$

B $49x^{10}$

C $14x^7$

D $49x^7$



2018

A.11B – 1 (R)

sixty six Y

28 Which expression is equivalent to $\frac{(q^4)^{-3}}{q^{-15}}$ for all values of q where the expression is defined?

F q^{27}

G $\frac{1}{q^{27}}$

H q^3

J $\frac{1}{q^3}$



2018

A.11B – 1 (R)

sixty seven X

49 Which expression is equivalent to $\frac{10q^5w^7}{2w^3} \cdot \frac{4(q^6)^2}{w^{-5}}$ for all values of q and w where the expression is defined?

A $\frac{32q^7}{w}$

B $20q^{17}w^9$

C $32q^7w^9$

D $20qw$