

# Countdown to the Math STAAR!™

## The New Countdown For Grades 6 – 8!

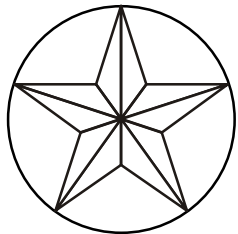
Designed to reflect the latest standards, item balance, and rigor of the STAAR!

Each page of the *Countdown* gives your students essential practice in 3 to 6 different standards. Whether it's worked as a daily warm-up or as a homework assignment, by the end of the tenth series your students will have worked 400 exit-level problems!

Eighth Grade Sample Page:

★ *Countdown* to the Math STAAR™★ Series 3 / Page 1

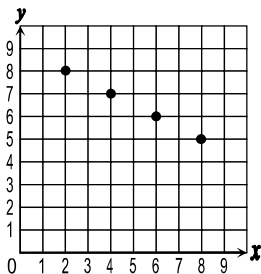
1 Use a ruler to measure the radius of the circle that surrounds the star below.



- A 14.2 cm    C 25.1 cm  
B 26.4 cm    D 15.7 cm

7.9B

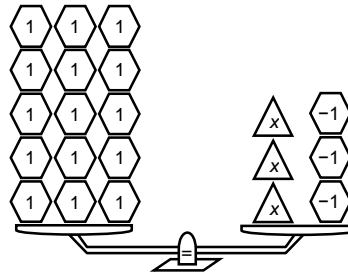
3 Vicki plotted 4 points on the grid below.



- F  $y = 2x + 9$     H  $y = x - 2$   
G  $y = x - 6$     J  $y = -\frac{1}{2}x + 9$

7.7A

5 Gabriel created the model below to represent an equation.



- F  $15 = 3x - 3; x = 6$   
G  $15 = 3x + 3; x = 6$   
H  $15 = 3x - 3; x = 4$   
J  $15 = 3x + 3; x = 4$

7.11A

2 In a 3-day period, Mr. Scholz runs on a treadmill for 1.5 hours and lifts weights for 2.25 hours. At this rate, how many total hours will Mr. Scholz run on a treadmill and lift weights in a 30-day period?

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

7.4D

4 A game spinner is divided into equal sections.

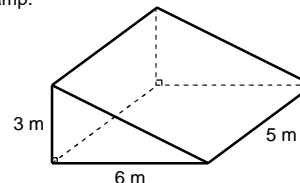
- 3 sections are colored black
- 7 sections are colored red
- 4 sections are colored green
- 2 sections are colored orange
- 3 sections are colored blue
- 1 section is colored white

The arrow on the spinner will be spun 100 times. What is a reasonable prediction for the number of times the arrow will point to a section colored red or green?

- A 55    B 11    C 45    D 9

7.6D

6 The model shown below represents a ramp.



- A  $60 \text{ m}^3$     C  $45 \text{ m}^3$   
B  $35 \text{ m}^3$     D  $90 \text{ m}^3$

7.9A

## 10 Complete Series!

Each series resembles a full-length STAAR (42 problems). Print an entire test on just 5 pages when printed front-to-back.

## Your order of Countdown includes:

- 5 Original Series
- 5 *Shadow* Series (copies of the first five series with essential numbers and answers changed)
- 1 *Quick Track*
- 1 *Standards-At-A-Glance*
- 1 Answer Key

## Who We Are

MathWarm-Ups.com is a Texas-based company and approved vendor in more than 800 school districts. Our most popular product, *Countdown to the Math STAAR*, is currently used in hundreds of classrooms throughout Texas. Our no-nonsense, straightforward, and affordable approach continues to reach new teachers and their students every year.

## When to begin Countdown

The problems on the *Countdown* are exit-level difficulty. We recommend beginning 10 weeks before the test. You can always *double up* when necessary, though.

## Maximize Effectiveness!

Check every page with your students, as a class or individually. Identify problem areas by utilizing the provided *Quick Track* forms. Use *Fast Focus* to provide individualized practice on difficult standards.

The math STAAR is the most rigorous math test your eighth-graders will encounter this school year, testing them on 27 different *Supporting* standards and 13 different *Readiness* standards.

Your students need rigorous practice and you need to assess their proficiency. *Countdown* provides both in a straightforward and easy-to-implement design.

## Implementation Steps

**Work** 1 or 2 pages a day as homework or in class as a daily warm-up.

**Check** each page with your students, modeling and discussing effective problem-solving strategies.

**Track** progress by using the provided *Quick Track* form (students fill this out themselves in seconds).

**Focus** on problem areas using *Fast Focus*.

**No teacher training or computers required!**

*Countdown* is simplicity at its finest. And it works!

MathWarm-Ups.com

1 When  $y = 35$ ,  $x = 2\frac{1}{2}$ . If the value of  $y$  varies directly with  $x$ , what is the value of  $y$  when the value of  $x$  is  $3\frac{1}{4}$ ?

- A  $113\frac{3}{4}$       C  $227\frac{1}{2}$   
 B  $26\frac{12}{13}$       D  $45\frac{1}{2}$

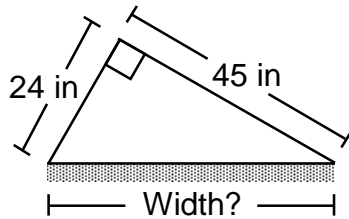
8.5E

4 Jorge deposited \$5,000 into an account that pays 3% compound annual interest. If no additional deposits or withdrawals are made, which of the following is closest to total amount of interest Jorge's account will earn at the end of 4 years?

- A \$600.00      C \$627.54  
 B \$624.32      D \$652.38

8.12D

2 A side view of a recycling bin lid is diagramed below where two panels come together at a right angle.

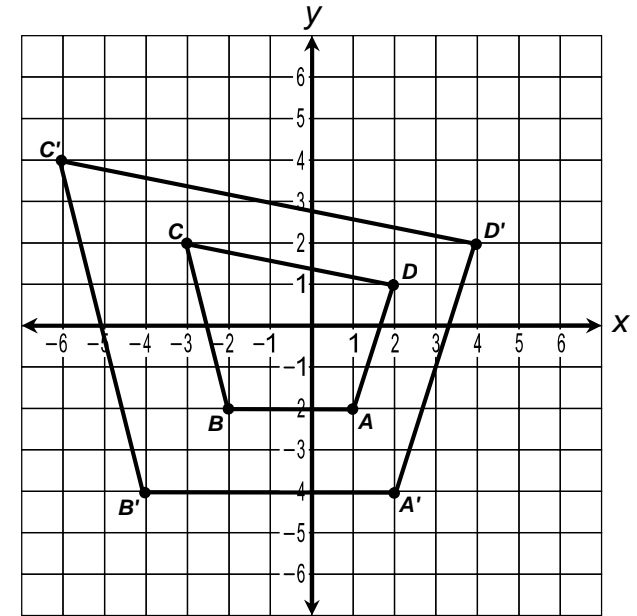


Given this information, how wide is the recycling bin in inches?

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

8.7C

5 Quadrilateral  $ABCD$  is dilated about the origin to make quadrilateral  $A'B'C'D'$ .

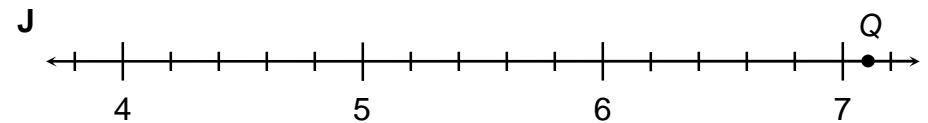
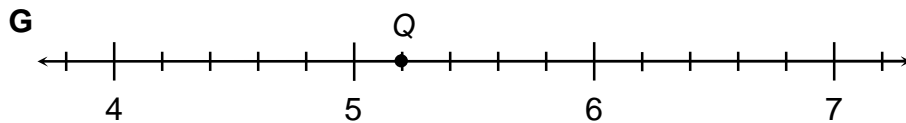
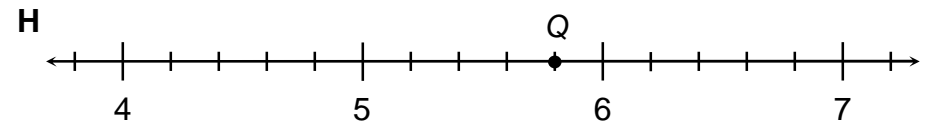
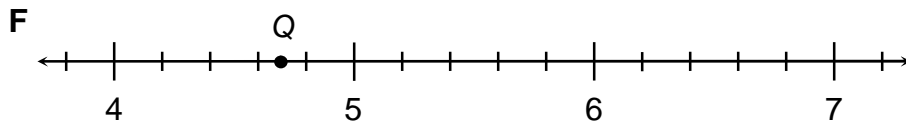


The side lengths of quadrilateral  $ABCD$  and the corresponding side lengths of  $A'B'C'D'$  can best be described as —

- F proportional      H equivalent  
 G congruent      J perpendicular

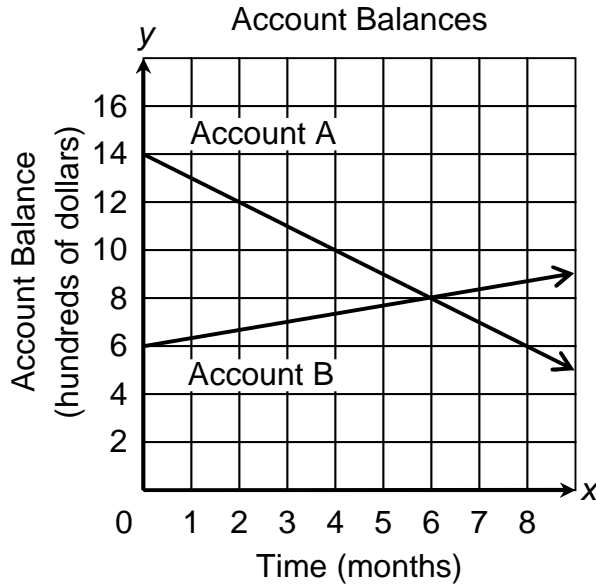
8.3B

3 On which number line does point  $Q$  best represent the approximate value of  $\sqrt{27}$ ?



8.2B

1 The linear relationship between the value of two bank accounts and the number of months that have passed since the beginning of the year are graphed below.

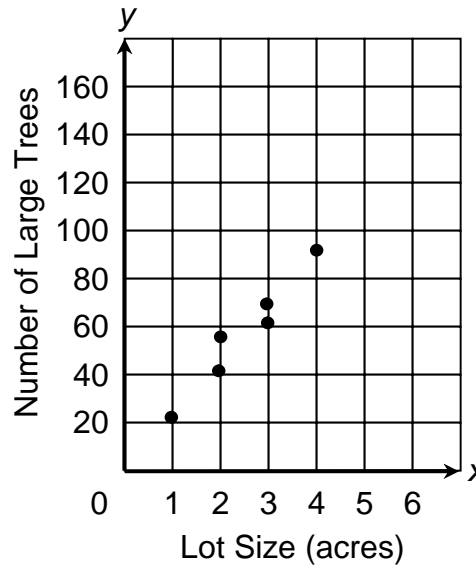


Which statement appears to be true regarding the information graphed above?

- A Since Account A started with \$800 more than Account B, the accounts were equal at month 8.
- B Account A has decreased at a slower rate than Account B has increased.
- C Since Accounts A and B started with different initial amounts, the balances of the two accounts were never equal.
- D Accounts A and B had the same value at month 6.

8.9A

2 A developer is subdividing land into lots to be sold as home sites. Since some customers ask how many trees a lot may have on it, the developer has recorded the number of large trees found on several different-sized lots. The data is shown here.



What is the closest estimate of large trees likely to be found on a 6 acre lot?

- F 90
- G 105
- H 140
- J 165

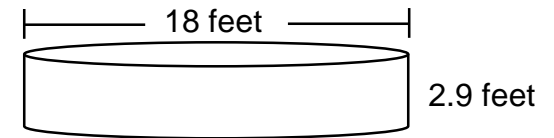
8.5D

4 Mr. Huang has already driven 150 miles and he will drive 65 miles each hour until he reaches his destination. Which equation represents the relationship between  $h$ , the number of hours Mr. Huang has driven, and  $m$ , the total number of miles he has driven?

- F  $m = 65h - 150$
- H  $m = 150h + 65$
- G  $m = 65h + 150$
- J  $m = 150h - 65$

8.5I

5 The volume,  $V$ , of a cylinder is equal to the area of its base,  $B$ , times its height,  $h$ . If the diameter of a cylinder is 18 feet and its height is 2.9 feet, which expression represents  $V$  in cubic meters?



- A  $2.9\pi(9)^2$
- C  $\pi(2.9)^2$
- B  $2\pi(18)$
- D None of these

8.6A

3 Which table shows  $y$  as a function of  $x$ ?

**A**

$x$	$y$
-8	1
-5	1
-5	4
-2	4

**B**

$x$	$y$
1	-1
1	-4
4	-1
4	-4

**C**

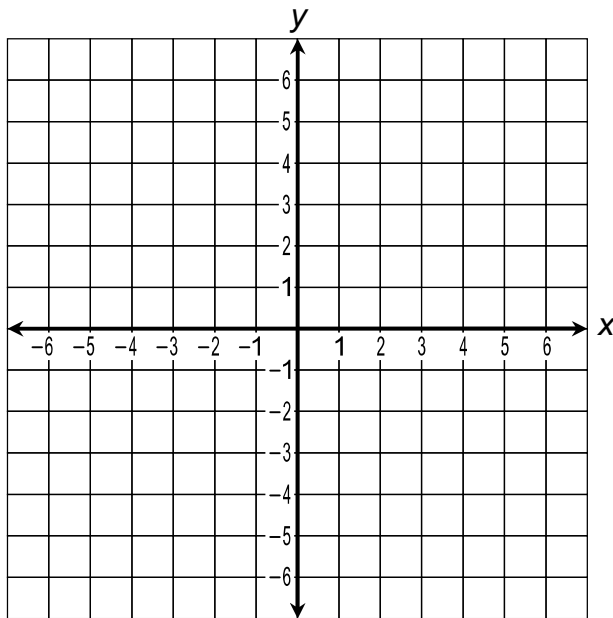
$x$	$y$
-6	-7
-3	-5
0	-3
0	0

**D**

$x$	$y$
-2	-2
0	0
2	1
4	1

8.5G

1 Triangle  $DEF$  with vertices  $D(2, 1)$ ,  $E(3, 5)$ , and  $F(6, 2)$  is reflected across the  $x$ -axis to make triangle  $D'E'F'$ .



Which rule represents the transformation?

- A  $(x, y) \rightarrow (x, -y)$
- B  $(x, y) \rightarrow (-x, y)$
- C  $(x, y) \rightarrow (y, -x)$
- D  $(x, y) \rightarrow (-y, x)$

8.10C

2 At its perihelion, the earth is  $1.47 \times 10^8$  kilometers from the sun. Which represents this distance in standard decimal notation?

- F 147,000,000 km
- G 14,700,000,000 km
- H 14,700,000 km
- J 1,470,000,000 km

8.2C

3 Which table contains only corresponding  $x$ -values and  $y$ -values where the value of  $y$  is 4 less than the product of  $x$  and 2.5?

**A**

$x$	$y$
6	19
11	31.5
16	44
24	64

**B**

$x$	$y$
6	11
11	23.5
16	36
24	56

**C**

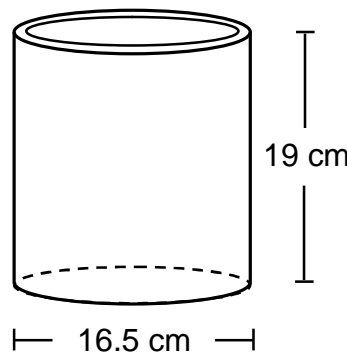
$x$	$y$
6	15
11	27.5
16	40
24	60

**D**

$x$	$y$
6	13
11	25.5
16	38
24	58

8.5B

4 A cylindrical paint can has dimensions as shown below.



Which is the closest volume of the paint can in cubic centimeters?

- F  $855.3 \text{ cm}^3$
- G  $4,062.7 \text{ cm}^3$
- H  $8,125.3 \text{ cm}^3$
- J  $16,250.7 \text{ cm}^3$

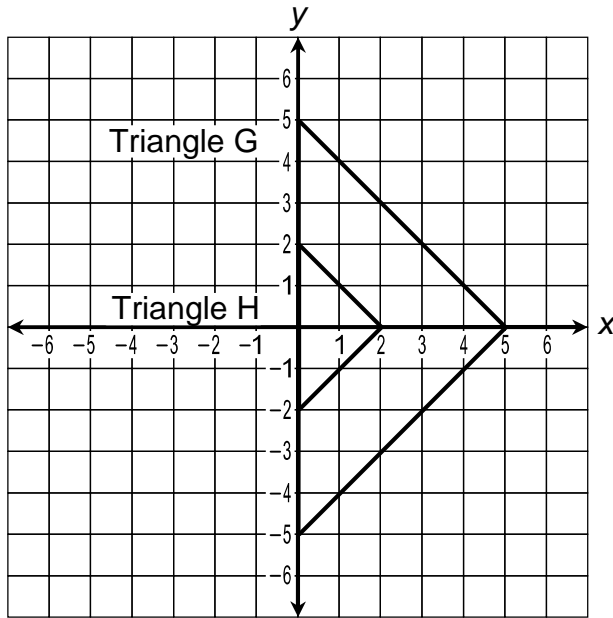
8.7A

5 Constance is planning to pay for part of her college using a \$12,000 student loan. She is comparing the total costs of two loan options. Option A is to borrow the \$12,000 for 5 years at 4.75% annual compound interest. Option B is to borrow the \$12,000 for 4 years at 5% annual compound interest. Which of the following is closest to the difference in total cost of Option A compared to Option B?

- A \$450.00
- B \$529.87
- C \$547.84
- D \$867.72

8.12A

1 Triangle G is dilated about the origin to make smaller Triangle H.



Which rule best represents the dilation applied to Triangle G to make Triangle H?

- A  $(x, y) \rightarrow (x + 3, y + 3)$
- B  $(x, y) \rightarrow (\frac{2}{5}x, \frac{2}{5}y)$
- C  $(x, y) \rightarrow (x - 3, y - 3)$
- D  $(x, y) \rightarrow (\frac{5}{2}x, \frac{5}{2}y)$

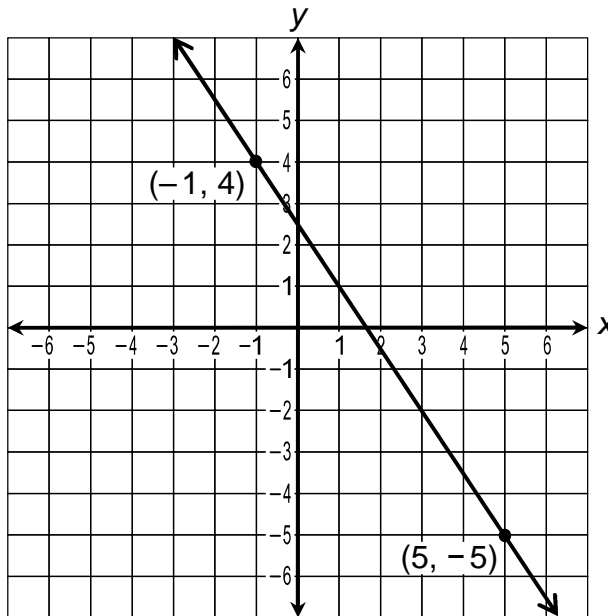
8.3C

2 Which of these equations shows a proportional relationship between  $x$  and  $y$ ?

- F  $y = -\frac{1}{3}x$
- H  $y = \frac{3}{2}x + \frac{3}{2}$
- G  $y = -x + 1$
- J  $y = 2x - 4$

8.5F

3 A linear function is graphed below.



What is the slope of this graphed line?

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

8.4C

4 Given a traffic cone has a base diameter of 12 inches and a height of 28 inches, which is the closest volume of the cone?

- A 2,463.01 in<sup>3</sup>
- C 1,055.58 in<sup>3</sup>
- B 4,222.3 in<sup>3</sup>
- D 3,166.73 in<sup>3</sup>

8.7A

5 A rectangular paper diploma is mounted in a frame similar in shape. Each dimension of the frame is 1.2 times the corresponding dimension of the diploma. Which of the following is correct?

- F The area of the framed diploma is 1.2 times the area of the diploma.
- G The area of the framed diploma is 2.4 times the area of the diploma.
- H The perimeter of the framed diploma is 4.8 times the perimeter of the diploma.
- J The perimeter of the framed diploma is 1.2 times the perimeter of the diploma.

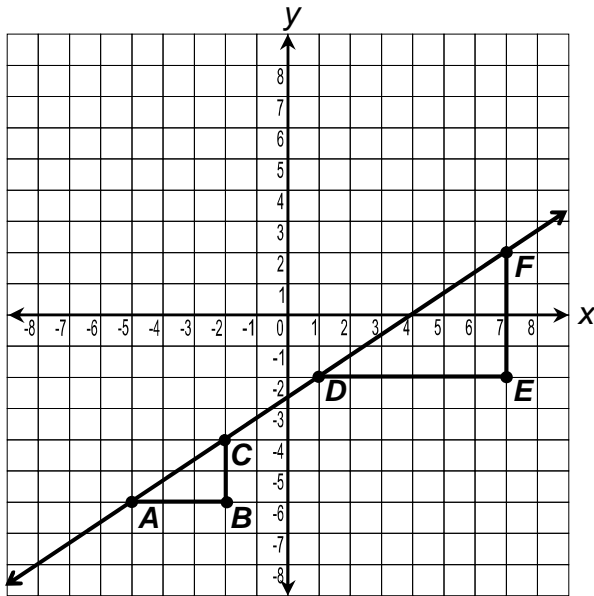
8.10D

6 Cassius is purchasing flower baskets to be placed on each table at a volunteer appreciation lunch. Store A charges \$19.25 per flower basket plus a \$15.00 delivery fee. Store B charges \$17.50 per flower basket plus a \$30.00 delivery fee. Which inequality can determine  $x$ , the maximum number of flower baskets that can be ordered for the total cost at Store A to be less than the total cost from Store B?

- A  $19.25 + 15x > 17.5 + 30x$
- B  $19.25 + 15x < 17.5 + 30x$
- C  $19.25x + 15 > 17.5x + 30$
- D  $19.25x + 15 < 17.5x + 30$

8.8A

1 Right triangles  $ABC$  and  $DEF$  are similar.



Which of these proportions demonstrate the slope of  $\overline{AC}$  is equal to the slope of  $\overline{DF}$ ?

- A  $\frac{-4 - (-6)}{-2 - (-5)} = \frac{2 - (-2)}{7 - 1}$
- B  $\frac{-2 - (-4)}{-5 - (-6)} = \frac{2 - 7}{1 - (-2)}$
- C  $\frac{-2 - (-5)}{-4 - (-6)} = \frac{7 - 1}{2 - (-2)}$
- D  $\frac{-4 - (-2)}{-6 - (-5)} = \frac{2 - 7}{-2 - 1}$

8.4A

2 Which of the following could represent the unit side lengths of a right triangle?

- F 3, 4, 6
- G 10, 11, 15
- H 5, 12, 13
- J 8, 12, 20

8.7C

3 David has some money in his savings account at a local bank. He will add the same amount of money to the account each week for the next several weeks. The table shows the amount of money he will have at the end of  $x$  weeks.

Number of Weeks, $x$	1	3	8	10	13
Number of Dollars, $y$	125	175	300	350	425

Which statement is true?

- A David originally had \$75 in the savings account and he will add \$50 each week.
- B David originally had \$100 in the savings account and he will add \$50 each week.
- C David originally had \$75 in the savings account and he will add \$25 each week.
- D David originally had \$100 in the savings account and he will add \$25 each week.

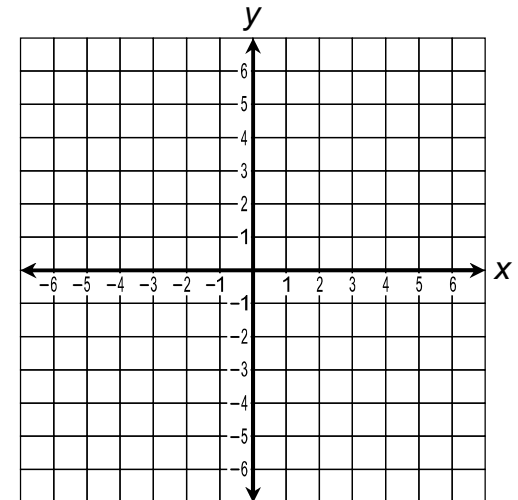
8.4C

4 Video Store A charges a \$15.00 account setup fee and \$1.75 per movie rental. Video Store B charges a \$7.50 account setup fee and \$2.25 per movie rental. What number of movie rentals will make the total cost of renting movies from Video Store A equal to the total cost of renting movies from Video Store B?

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

8.8C

5 Point  $P$  is located at  $(-2, 3)$  on a coordinate grid. Point  $P$  is translated 7 units right and 6 units down to make Point  $P'$ .

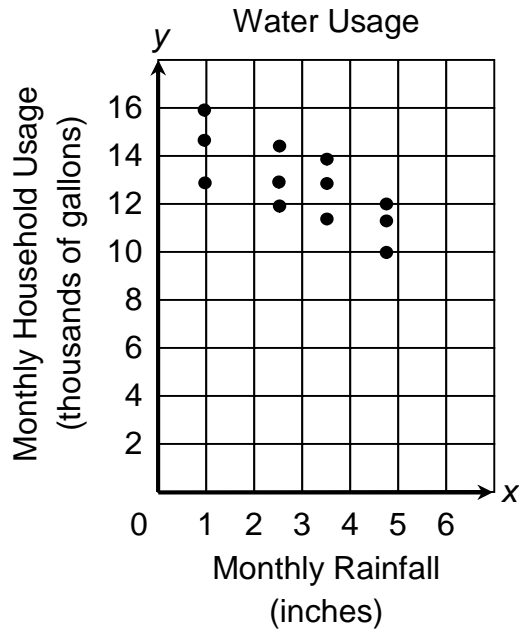


Which of these is closest to the unit distance between points  $P$  and  $P'$ ?

- F 7
- G 9
- H 11
- J 13

8.7D

1 To find out how water usage for residential landscaping may be affected by different levels of seasonal dryness, a city water department recorded the monthly water usage of 3 customers over 4 months with different monthly rainfall amounts. The results are shown on the scatterplot below.



Based on the information, which is the closest estimate for the number of gallons a household might use in a month with 6 inches of rain?

- A 5,000
- B 6,000
- C 10,000
- D 14,000

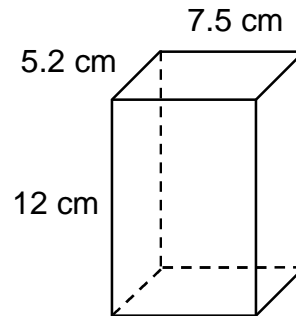
8.5D

2 Keisha just deposited a total of \$900 into savings accounts at two different banks. The \$550 she deposited at Bank A will earn 2.25% interest compounded annually. The \$350 she deposited at Bank B will earn 3% annual simple interest. If no additional deposits or withdrawals are made to these accounts, which amount is closest to the combined balance of the two accounts at the end of 2 years?

- F \$945.75
- G \$946.03
- H \$946.35
- J \$947.08

8.12D

3 The dimensions of a rectangular prism are shown here.

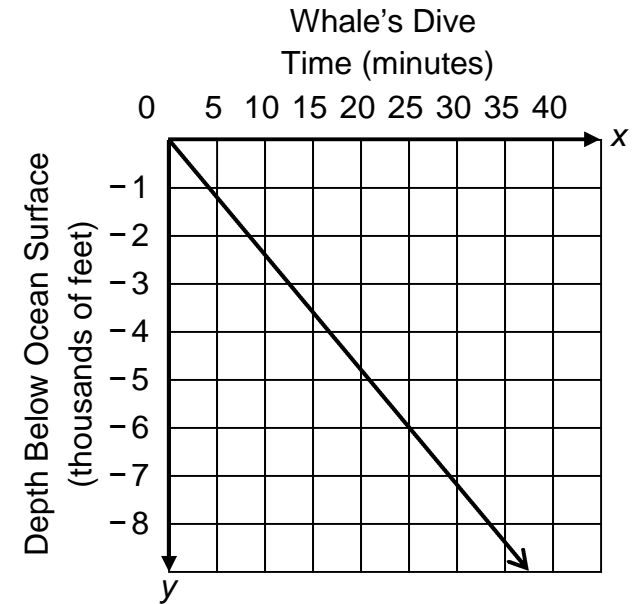


What is the lateral surface area of this rectangular prism in square centimeters?

- A  $304.8 \text{ cm}^2$
- B  $249.6 \text{ cm}^3$
- C  $78 \text{ cm}^2$
- D  $360 \text{ cm}^2$

8.7B

4 A whale descends below the surface of the ocean in search for food. A researcher recorded the whale's depth as a function of time and represented it on the graph below.



Which statement best describes the situation?

- F The whale changed its depth by  $-300$  feet per minute.
- G The whale changed its depth by  $-200$  feet per minute.
- H The whale changed its depth by  $-275$  feet per minute.
- J The whale changed its depth by  $-240$  feet per minute.

8.4B

1 After providing the class the top surface area of a circular table in square inches, a teacher asked students to estimate the radius of the table given this information. Three of the estimates were –

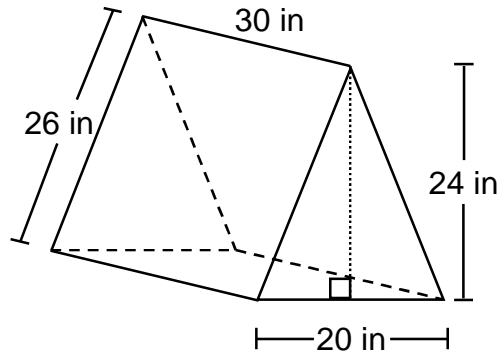
$8\sqrt{10}$  in,  $25\frac{1}{8}$  in, and 25.4 in

Which of these shows the radius estimates in order from least to greatest?

- A  $25\frac{1}{8}$  in, 25.4 in,  $8\sqrt{10}$
- B  $25\frac{1}{8}$  in,  $8\sqrt{10}$  in, 25.4 in
- C  $8\sqrt{10}$  in,  $25\frac{1}{8}$  in, 25.4 in
- D  $8\sqrt{10}$  in, 25.4 in,  $25\frac{1}{8}$

8.2D

3 The dimensions of a triangular prism are shown here.



What is the total surface area of this prism in square inches?

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

8.7B

4 The number of lesson objectives completed by six students taking a self-paced on-line class are listed below.

- 16, 31, 21, 37, 24, 26

What is the mean absolute deviation of these listed numbers?

- A 5.5
- B 25.8
- C 6.7
- D 25

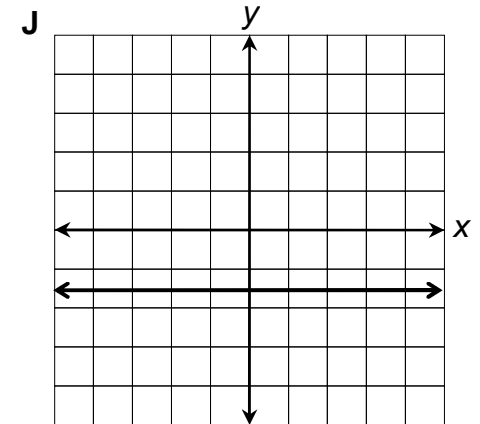
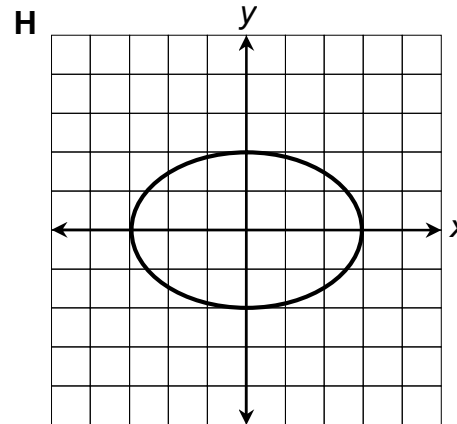
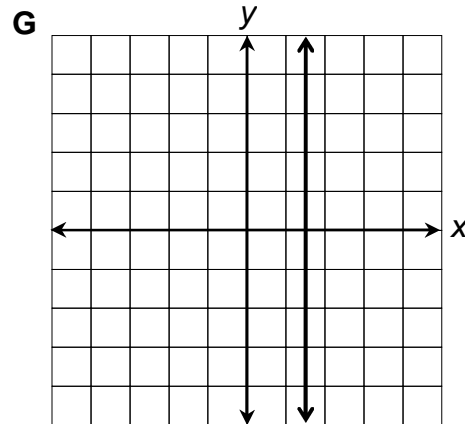
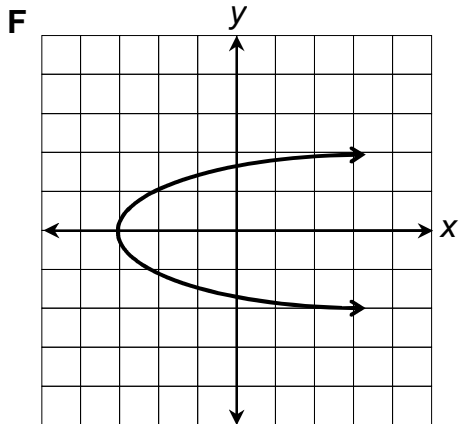
8.11B

5 Rectangle  $JKLM$  is translated 3 units to the left and 4 units up. Which rule represents the translation applied to rectangle  $JKLM$  to make rectangle  $J'K'L'M'$ ?

- F  $(x, y) \rightarrow (-3x, 4y)$
- G  $(x, y) \rightarrow (x - 3, y + 4)$
- H  $(x, y) \rightarrow (3x, -4y)$
- J  $(x, y) \rightarrow (x + 3, y - 4)$

8.10C

2 Which graph represents  $y$  as a function of  $x$ ?



8.5G

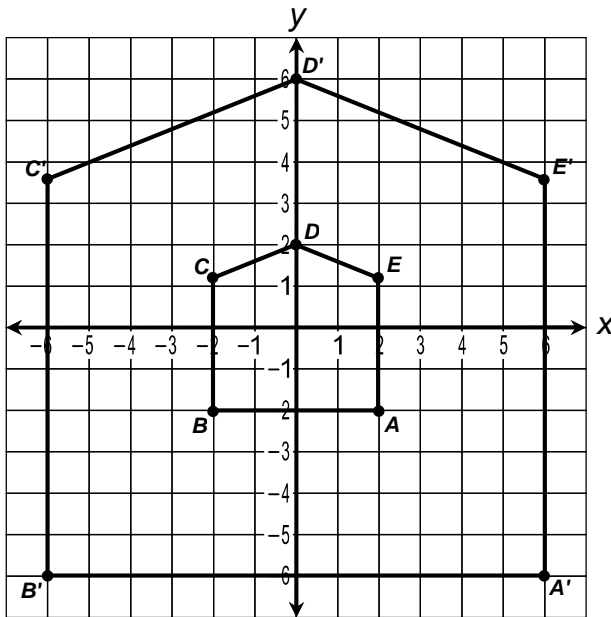


1 One side of a tabletop is  $12x - 5$  units long. Another side of the tabletop is  $7x + 4$  units long. If the tabletop is a square, what is the value of  $x$ ?

- A 1.8    B 1.2    C 0.75    D 2.5

8.8C

2 Pentagon  $ABCDE$  is dilated about the origin to make pentagon  $A'B'C'D'E'$  below.

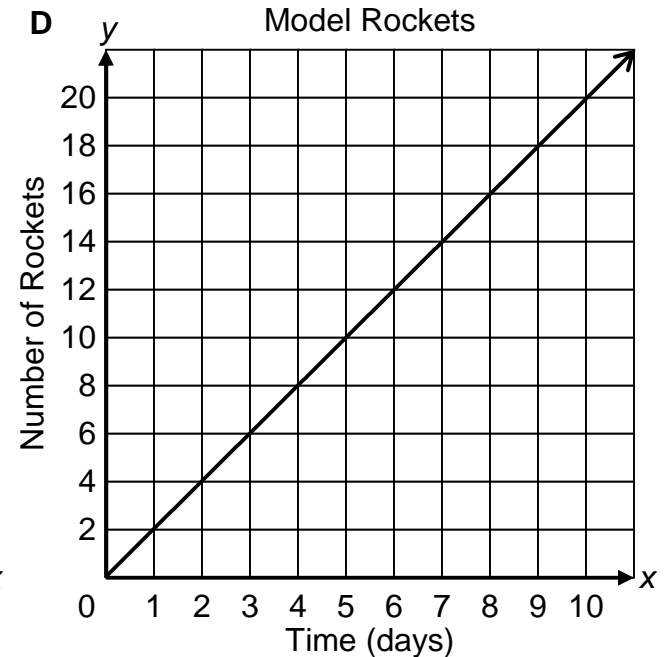
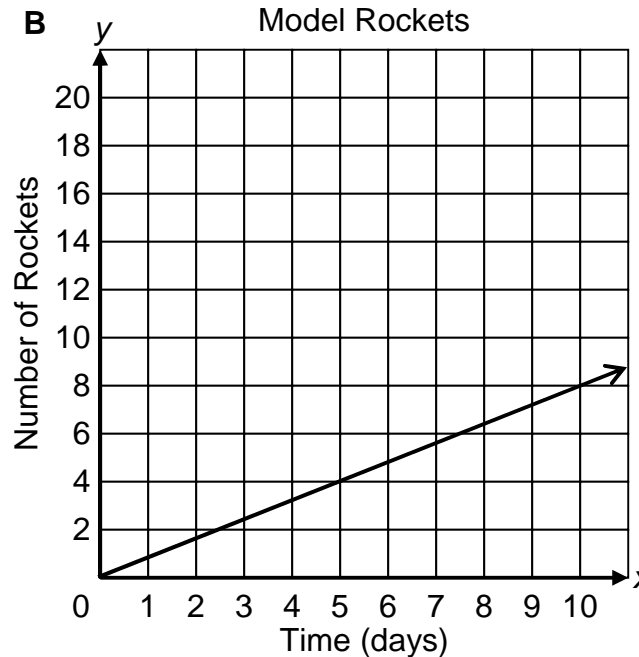
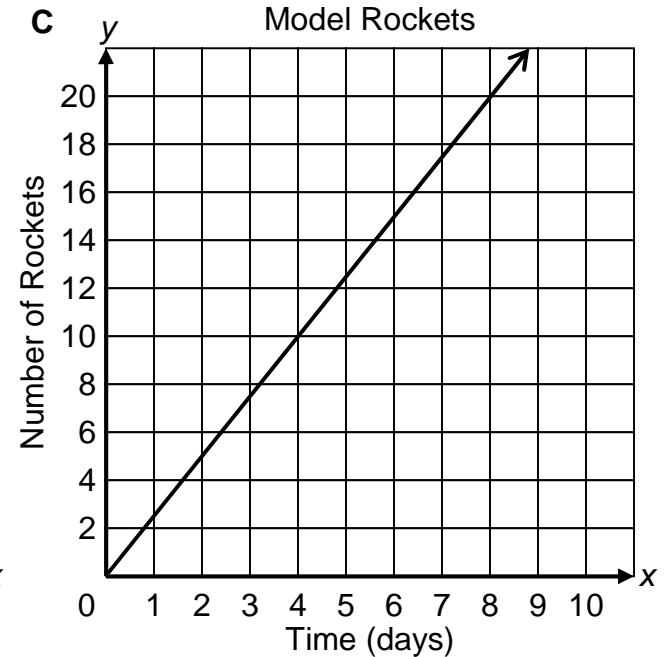
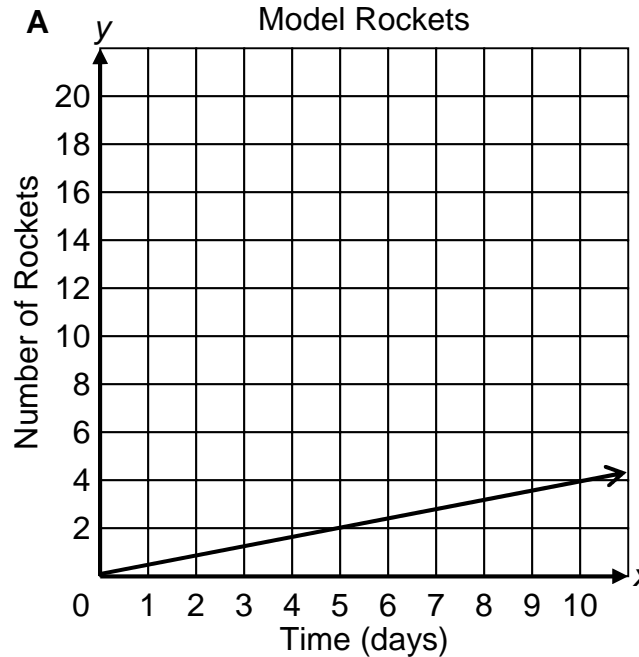


Which rule best represents the dilation that is applied to pentagon  $ABCDE$  to create pentagon  $A'B'C'D'E'$ ?

- F  $(x, y) \rightarrow (4x, 4y)$   
 G  $(x, y) \rightarrow (3x, 3y)$   
 H  $(x, y) \rightarrow (x + 4, y + 4)$   
 J  $(x, y) \rightarrow (x + 3, y + 3)$

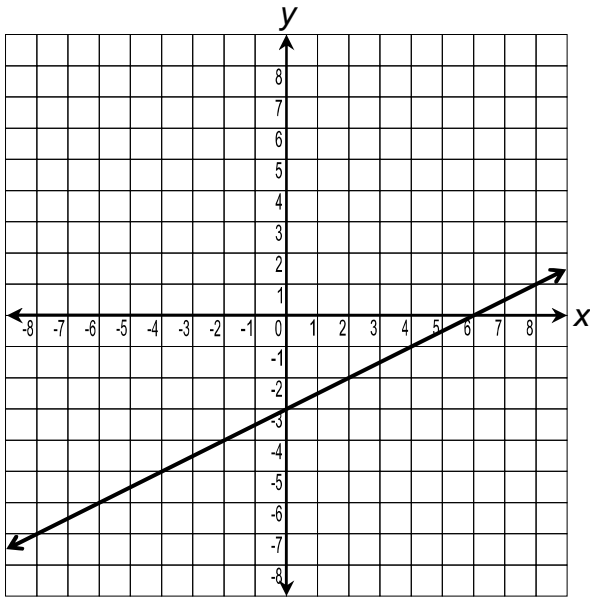
8.3C

3 Mingmei can build 5 model rockets in 2 days. Which graph has a slope that best represents the number of rockets per day Mingmei can build?



8.4B

1 Which linear function is graphed below?



- A  $y = 2x + 6$       C  $y = -\frac{1}{2}x + 3$   
 B  $y = \frac{1}{2}x - 3$       D  $y = -2x + 6$

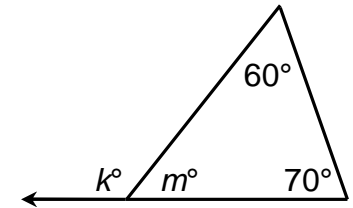
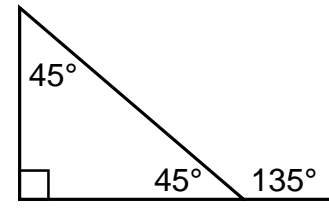
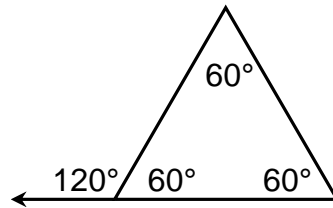
8.5I

2 Which list of numbers is in order from greatest to least?

- F 60%,  $\frac{8}{15}$ , 0.5,  $\frac{4}{9}$   
 G 0.5,  $\frac{4}{9}$ , 60%,  $\frac{8}{15}$   
 H 60%, 0.5,  $\frac{8}{15}$ ,  $\frac{4}{9}$   
 J  $\frac{8}{15}$ , 60%, 0.5,  $\frac{4}{9}$

8.2D

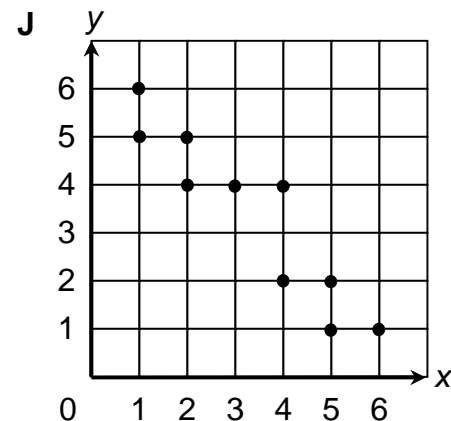
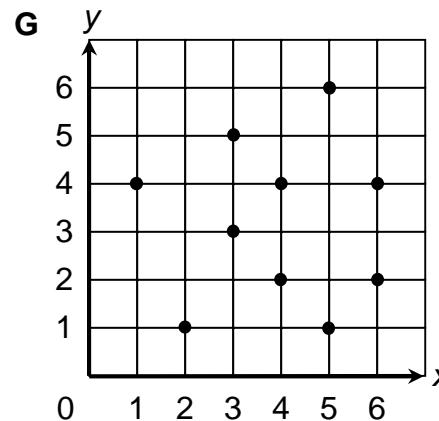
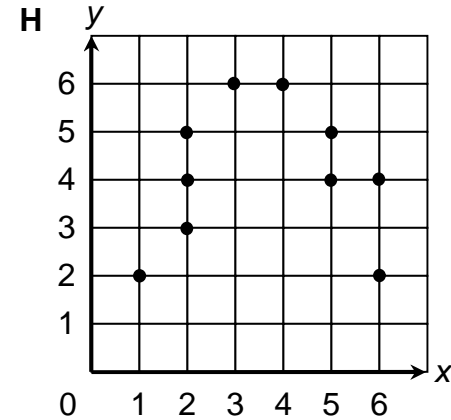
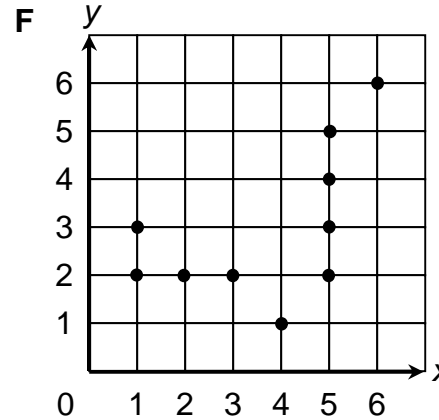
3 Based on the triangle diagrams below, which statement is correct?



- A  $k = 310^\circ$  since  $60 + 70 = 130$  and  $180 + 130 = 310$       C  $k = 130^\circ$  since  $180 - 60 - 70 = 50$  and  $180 - 50 = 130$   
 B  $k = 170^\circ$  since  $180 - 70 = 110$  and  $110 + 60 = 170$       D  $k = 50^\circ$  since  $60 + 70 = 130$  and  $180 - 130 = 50$

8.8D

4 Which scatterplot below appears to represent a linear relationship between  $x$  and  $y$ ?



8.5C