Broward County Public Schools

Grade 8 FSA Warm-Ups

Day 1

1. Which of the following are irrational numbers? ***Select all that apply.***

   a. $\sqrt{49}$

   b. 7.508508507...

   c. $\frac{8}{9}$

   d. $\sqrt{10}$

   e. $6.\overline{25}$

2. The maximum speed an animal can walk in feet per second is $s = 5.7\sqrt{l}$, where *l* is the animal's leg length in feet. What is the maximum walking speed for a camel with a leg length of 5.7 feet?

   a. 5.7 feet per second

   b. 11.4 feet per second

   c. 13.6 feet per second

   d. 20.2 feet per second

3. Which expressions are greater than 12.5? ***Select all that apply.***

   a. $\sqrt{130}$

   b. 4π

   c. $2\sqrt{95}$

   d. $8\sqrt{\pi}$

   e. $\sqrt{142}$

Day 2

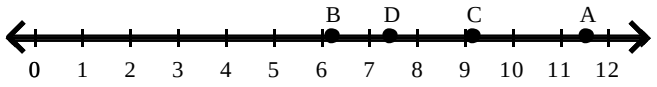
4. Look at each number and determine if it is a rational or irrational number.

Number	Rational	Irrational
128.5		
$\sqrt{15}$		
6.415418...		
$\sqrt{81}$		
$\frac{13}{5}$		

5. Look at each number below. Select ***all*** the numbers that can be written as a ratio of two integers.

   a. -38
   b. $\sqrt{49}$
   c. $4.15\overline{68}$
   d. $\sqrt{18}$
   e. π
   f. $\sqrt{27}$

6. Using the number line below, determine which expression represents the approximate location on the number line.



$\sqrt{85}$ is point _____

2π is point _____

$\sqrt{56}$ is point _____

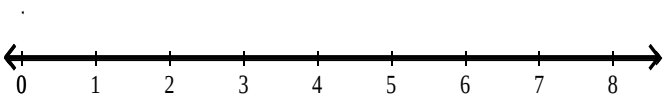
$3\sqrt{15}$ is point _____

Day 3

7. Li and two friends are at the ocean studying wildlife. They are all looking at the horizon from different points along the coastline. The table shows the distance each friend can see to the horizon based on their location.

Friend	Distance (in miles)
Li	$\sqrt{12}$
John	$\sqrt{37}$
Maya	$\sqrt{24}$

Approximate the distance each friend can see to the horizon to the nearest tenth of a mile. Plot a point on the number line below to show each distance. Label each point with the friend's name.



8. The equation $y = 33x$ describes the number of minutes *x* it takes a printer to print *y* pages in black and white. The table shows the number of minutes *x* it takes a printer to print *y* pages in color. Which kind of page can the printer print faster? Explain.

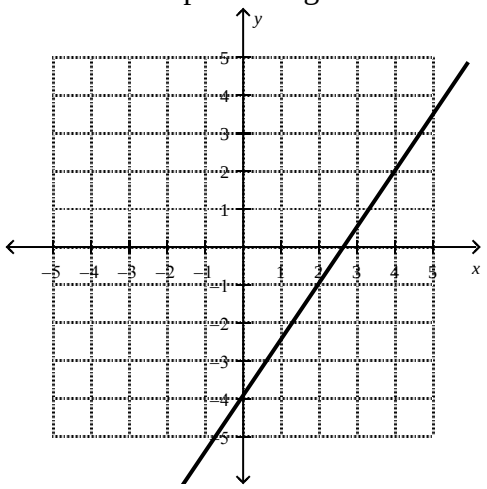
Number of Minutes, x	Number of Pages, y
2	52
5	130
8	208
15	390

Day 4

9. In 2011, Americans used 1.86×10^{11} kilowatt-hours to light their homes. They used 4.6×10^{10} kilowatt-hours to run their computer and computer equipment. Fill in the blank to complete the following statement:

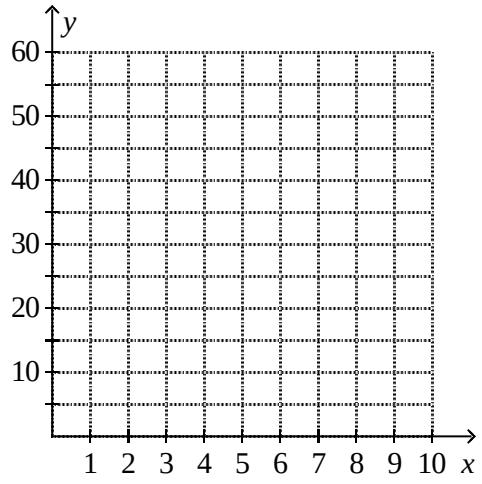
The amount of electricity used for lighting is about ____ times the amount used for computers.

10. Look at the line graphed below. Write an equation of a different line that has the same *y*-intercept as the line shown, but has a slope that is two times the slope of the given line.



Day 5

11. The equation $y = 15x$ describes Anna's biking rate. Let *x* be the number of hours and *y* be the total number of miles Anna has biked. Graph the equation.



12. Beth made wristbands and belts for a craft sale. She sold 30 of these items. Each wristband sold for $5.50. Each belt sold for $8.75. If Beth made $204 at the craft sale, how many wristbands did she sell? How many belts did she sell? Write and solve a system of equations to solve the problem. Show your work.

Day 6

13. Jana needs to rent a moving van for one day. Reliable Rentals charges $20 for the day and $0.50 for each mile. Dependable Rentals charges $10 for the day and $0.80 for each mile. Jana wrote and solved the equation below to find the number of miles for which the costs of renting from the companies will be about the same. She used *m* to represent the number if miles.

$$20 - 0.5m = 10 + 0.8m$$
$$20 = 10 + 1.3m$$
$$10 = 1.3m$$
$$m = \frac{10}{1.3} = \frac{100}{13} = 7\frac{9}{13}$$

The costs will be equal of the van is driven about 8 miles.

Look at Jana's equation and her solution. Circle the first error that appears in Jana's work. Describe the error, then solve the problem correctly. Show your work.

14. A cube, with side length *s*, has a volume of 216 cubic centimeters. The equation $s^3 = 216$ shows the volume of a cube. What is the side length of the cube in centimeters?

Day 7

15. Which system of equations has (4, 1) as its solution? ***Select all that apply.***

    a. $-3x + 8y = -4$
    $3x - 7y = 5$

    b. $y = -2x + 9$
    $2x + y = 4$

    c. $y = \frac{3}{4}x - 2$
    $y = \frac{1}{2}x - 1$

    d. $3x + 2y = 14$
    $2x + 3y = 7$

    e. $x + y = 5$
    $4y = x$

16. Richard and Aiden leave their homes at the same time and walk at a constant speed to a nearby park. Richard's speed is modeled by the equation $y = -0.07x + 1.47$, where *y* represents the remaining distance to the park and *x* represents the time in minutes since he left home. The table describes Aiden's speed.

Time Since Leaving Home (in minutes), *x*	0	9.5	22.5
Distance from the Park (in miles), *y*	1.35	0.78	0

Who is walking faster, Richard or Aiden? Who will arrive at the park first? Explain.

Day 8

17. A linear function represents Caitlin's income. She earns $35 plus $8 for each item she sells. Determine whether each point is on the graph of her earnings, *y*, as a function of the number of items sold, *x*. ***Select each ordered pair that is on the graph.***

    a. (7, 91)

    b. (11, 121)

    c. (9, 110)

    d. (4, 67)

    e. (5, 72)

    f. (3, 59)

18. For each equation in the table, determine whether the equation is a linear function. ***Select all that apply.***

    a. $y = 2\sqrt{x} + 23$

    b. $3x + 4y - 18 = 0$

    c. $x^2 + y^2 = 25$

    d. $y = \frac{x - 9}{7}$

    e. $x = 25y - 9$

    f. $y = 25x$

    g. $y = 0.5x^2 + 10$

Day 9

19. Chan puts 20 cents in a jar. The following week, she puts two times that original amount in the jar. For each of the following three weeks, Chan continues to double the amount of money placed in the savings jar each week.

    Use the information above to complete the table of values. The inputs are the number of weeks Chan saves. The outputs are the amounts Chan is saving each week.

Chan's Savings

Weeks					
Savings					

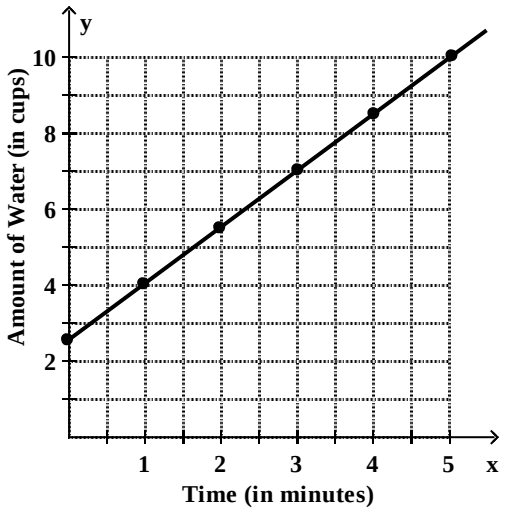
    Is the relation shown in the table a linear function or nonlinear function? Explain your answer.

20. Zoe and Nora each have a pail with a small amount of water in it. Each girl slowly begins to add water to her pail. The table describes the cups of water *y* in Zoe's pail as a linear function of the time *x* that she spends filling it. The graph describes the cups of water as a function of time that Nora spends filling her pail. Is Zoe or Nora filling her pail at a faster rate? Explain.

Zoe's Pail

***x* (in minutes)**	2	3	4
***y* (in cups)**	5.7	7.5	9.3

Nora's Pail



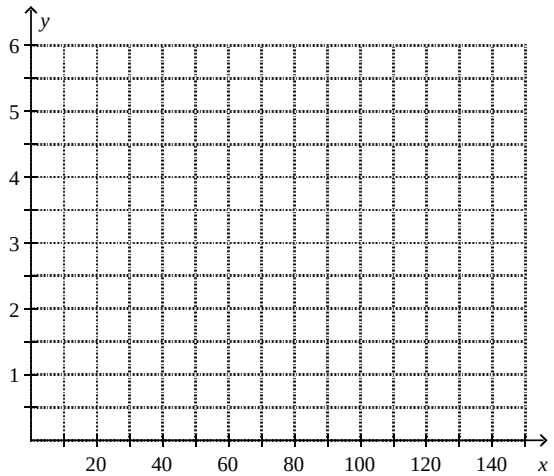
Day 10

21. The table shows the relationship between time (in minutes) and the number of people who entered a water park just after it opens. Does the table represent a linear function or a nonlinear function? Explain how you know.

Time (in minutes)	Number of People
2	125
3	197
5	341
7	485
9	629

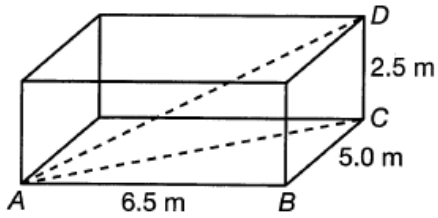
22. Tristan spends 20 minutes walking 1.2 miles from his home to the library. He stays there for 10 minutes, and then he spends 30 minutes walking 1.3 miles to the park. After watching the ducks there for 15 minutes, he leaves and walks 2.5 miles back to his home in 45 minutes.

    Draw the graph of a function that could represent the situation.



Day 11

23. Treyvon makes the drawing shown below of his living room.



    Find the length of $\overline{AC}$ and $\overline{AD}$ to the nearest tenth of a meter. Show your work.

24. The vertices of a triangle on a coordinate plane are (-4, 4), (-2, 4), and (-1, 6). What are the coordinates of the image triangle produced by each of the following rotations?

    A. a 90° counterclockwise rotation about the origin

    (____, ____), (____, ____), (____, ____)

    B. a 270° counterclockwise rotation about the origin

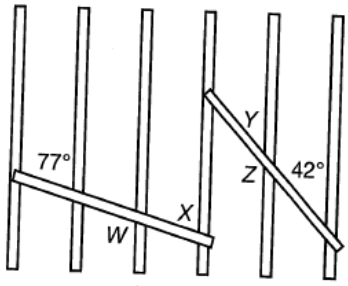
    (____, ____), (____, ____), (____, ____)

    C. a 180° clockwise rotation about the origin

    (____, ____), (____, ____), (____, ____)

Day 12

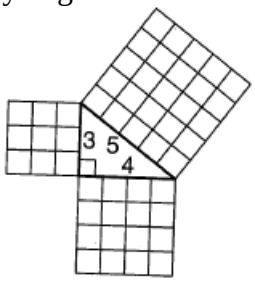
25. A builder uses the design below to create one wall of a room. All of the vertical beams of the wall are parallel. Identify the measure of each labeled angle in the design.



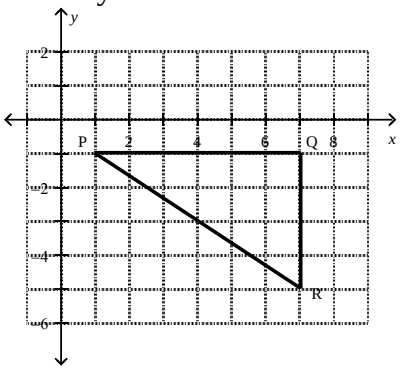
m∠W = _____ m∠Y = _____

m∠X = _____ m∠Z = _____

26. How does the diagram illustrate the Pythagorean theorem?



27. Find the perimeter of right triangle PQR shown below. Round your answer to the nearest tenth of a unit. Show your work.



Day 13

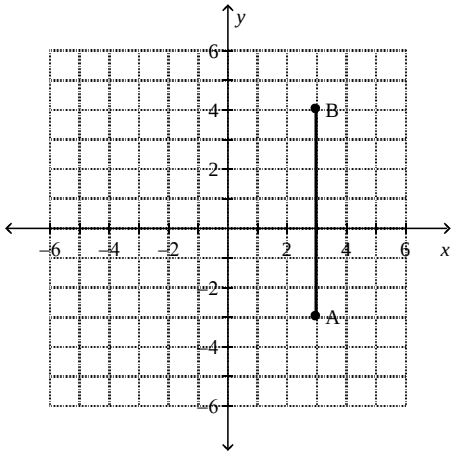
28. Point *A* is located at (-4, 2), and point *B* is located at (-1, 2). What is the length of the image of $\overline{AB}$ when $\overline{AB}$ is translated 5 units right and 2 units down?

a. 2
b. 3
c. 5
d. 8

29. Point *A* is located at (5, –5), and point *B* is located at (0, –5). $\overline{AB}$ is rotated counterclockwise 90° about the origin. What are the coordinates of points *A′* and *B′*, the images of points *A* and *B* after the rotation?

a. *A′*(–5, 0); *B′*(–5, –5)
b. *A′*(–5, –5); *B′*(–5, 0)
c. *A′*(5, 5); *B′*(5, 0)
d. *A′*(5, 0); *B′*(5, 5)

30. The graph below shows $\overline{AB}$. What is the length of $\overline{A'B'}$ which is the reflection of $\overline{AB}$ across the *y*-axis?



a. 1
b. 3
c. 6
d. 7

Day 14

$\overline{AB}$ has endpoints $A(-2, 4)$ and $B(-7, 4)$. ***Match each transformation of $\overline{AB}$ with the endpoints of the corresponding image $\overline{A'B'}$.***

a. $A'(2, 4)$ and $B'(-7, 4)$

b. $A'(2, 4)$ and $B'(-3, 4)$

c. $A'(-2, -4)$ and $B'(-7, -4)$

d. $A'(2, 4)$ and $B'(7, 4)$

e. $A'(-4, -2)$ and $B'(-4, -7)$

f. $A'(-2, 2)$ and $B'(-7, 2)$

g. $A'(-2, 4)$ and $B'(-7, 4)$

h. $A'(4, 2)$ and $B'(4, 7)$

31. Reflection across x-axis

32. Reflection across y-axis

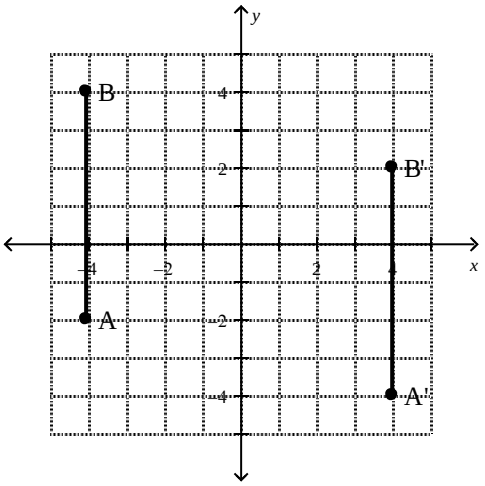
33. Clockwise rotation 90° about the origin

34. Translation 4 units to the right

35. Translation 2 units down

Day 15

36. The graph below shows $\overline{AB}$. Gale rotates $\overline{AB}$ clockwise 90° about the origin and then translates the result 2 units down. He calls this $\overline{A'B'}$ which is also shown on the coordinate plane. Is Gale's work correct? If not, state what transformations Gale must have performed, and then draw the correct transformed segment. What do you notice about the orientation and length of the transformed segment?



37. In $\triangle ABC$, $m\angle A = 40°$, $m\angle B = 90°$, and $m\angle C = 50°$. If the triangle is rotated 90° clockwise about a point, what is the measure of the image of $\angle A$?

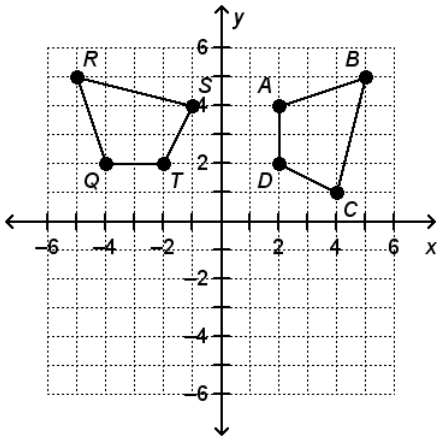
a. 40°
b. 50°
c. 90°
d. 180°

Day 16

38. Quadrilateral *WXYZ* is the image of quadrilateral *ABCD* translated 9 units left and 4 units up. If you know m∠*A*, what other angle do you know the measure of?

    a. ∠*W*
    b. ∠*X*
    c. ∠*Y*
    d. ∠*Z*

39. Quadrilateral *QRST* is the image of quadrilateral *ABCD* after the transformation $(x, y) \rightarrow (-y, x)$ is applied. Which angles have the same measure? ***Select all that apply.***



    a. ∠*A* and ∠*T*
    b. ∠*D* and ∠*T*
    c. ∠*B* and ∠*R*
    d. ∠*C* and ∠*Q*
    e. ∠*A* and ∠*Q*
    f. ∠*B* and ∠*S*
    g. ∠*C* and ∠*S*
    h. ∠*D* and ∠*R*

Day 17

40. No two angles of ΔABC have the same measure. ΔFGH is the image of ΔABC after being translated 5 units to the right and 8 units down. For each pair of angles, determine whether the angles have the same measure.

Angles	Same Measure	Different Measures
a. ∠*A* and ∠*H*		
b. ∠*C* and ∠*H*		
c. ∠*B* and ∠*F*		
d. ∠*C* and ∠*G*		
e. ∠*A* and ∠*F*		
f. ∠*B* and ∠*G*		

41. A regular octagon is rotated 180° counterclockwise about the origin. How many pairs of sides are parallel in the image?

    a. 1
    b. 2
    c. 3
    d. 4

42. The image of pentagon *ABCDE* after it is translated right 8 units and up 3 units is pentagon *QRSTU*. If sides $\overline{BC}$ and $\overline{AE}$ are parallel in *ABCDE* and there are no other parallel sides, which sides in the image are parallel?

    a. $\overline{RS}$ and $\overline{QU}$
    b. $\overline{QR}$ and $\overline{ST}$
    c. $\overline{RS}$ and $\overline{TU}$
    d. $\overline{ST}$ and $\overline{QU}$

Day 18

43. The translation $(x, y) \rightarrow (x + 12, y)$ is performed on rectangle *ABCD* drawn on a coordinate plane. Which of the following sides of the image are parallel after the translation?
Select all that apply.

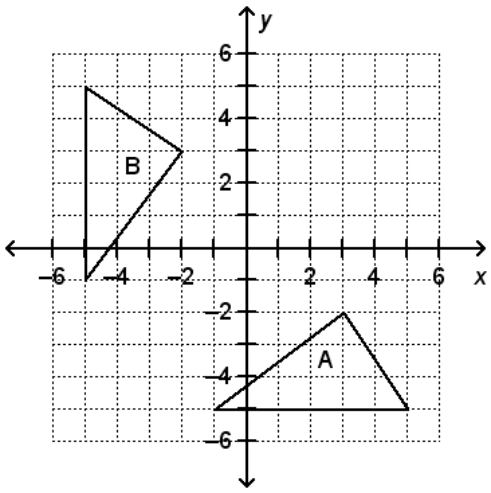
    a. The images of $\overline{AB}$ and $\overline{BC}$
    b. The images of $\overline{BC}$ and $\overline{CD}$
    c. The images of $\overline{AB}$ and $\overline{CD}$
    d. The images of $\overline{AD}$ and $\overline{CD}$
    e. The images of $\overline{AB}$ and $\overline{AD}$
    f. The images of $\overline{AD}$ and $\overline{BC}$

44. Which set of vertices describes a triangle that is the result of performing a sequence of translations, reflections, and/or rotations on the triangle with vertices (–5, 2), (–2, 2), (–3, 6) and is therefore congruent to the triangle?

    a. (2, 2), (3, 6), (6, 2)
    b. (–6, –1), (–6, –4), (–2, –3)
    c. (0, 0), (3, 0), (2, 3)
    d. (2, –1), (5, –2), (3, –6)

Day 19

45. Which sequences of transformations map triangle A to triangle B, thereby showing that the triangles are congruent?



    a. Reflect across the *x*-axis, and then rotate 90° counterclockwise about the origin.
    b. Reflect across the *y*-axis, and then rotate 90° counterclockwise about the origin.
    c. Reflect across the *x*-axis, and then rotate 180° counterclockwise about the origin.
    d. Reflect across the *y*-axis, and then rotate 180° counterclockwise about the origin.

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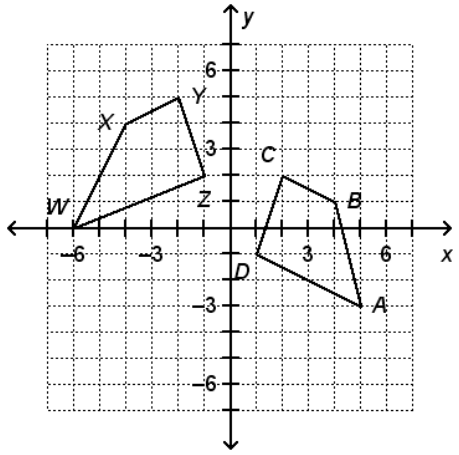
46. Are quadrilaterals *ABCD* and *WXYZ* congruent? If so, give a sequence of transformations that maps *ABCD* to *WXYZ*. If not, explain.

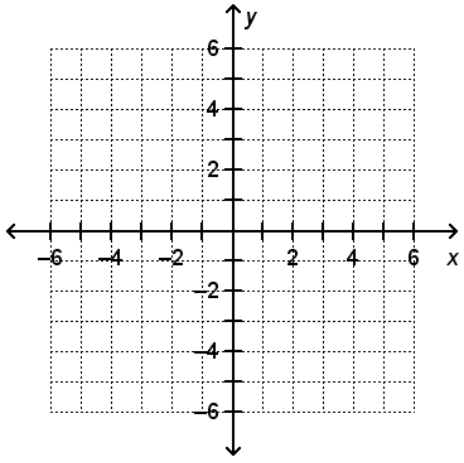


47. The vertices of a quadrilateral are (1, 2), (3, 1), (2, 4), and (5, 3). Draw the figure on the coordinate plane. Perform the following transformations, where each transformation is applied to the previous image. Draw each image on the coordinate plane, keeping track of which transformation was performed. Are the original figure and final image congruent? Explain.

a. $(x, y) \rightarrow (x - 3, y + 1)$

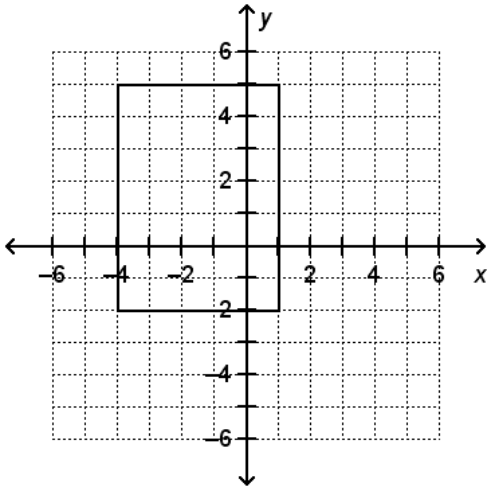
b. $(x, y) \rightarrow (-y, x)$

c. $(x, y) \rightarrow (-x, y)$



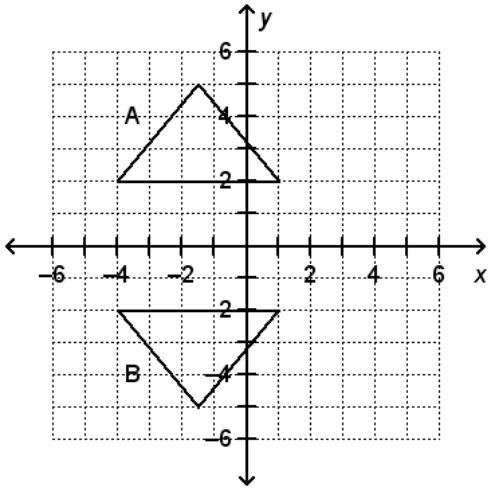
Day 20

48. The rectangle shown is translated 6 units to the left. Which ordered pair is NOT a vertex of the image?



a. (2, –2)
b. (–10, 5)
c. (–5, –2)
d. (-5, 5)

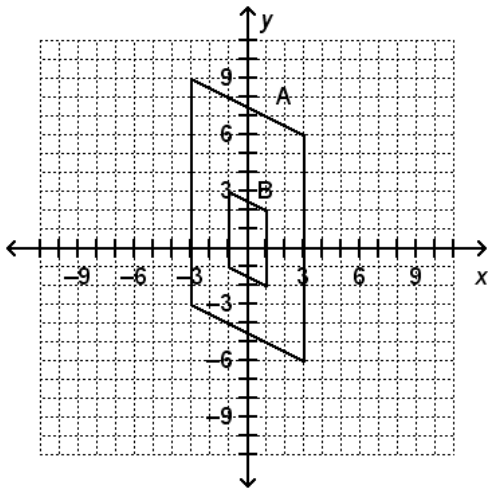
49. Figure B is the image of figure A under what transformation?



a. $(x, y) \rightarrow (x, y - 4)$
b. $(x, y) \rightarrow (-x, y)$
c. $(x, y) \rightarrow (x, -y)$
d. $(x, y) \rightarrow (x, y - 7)$

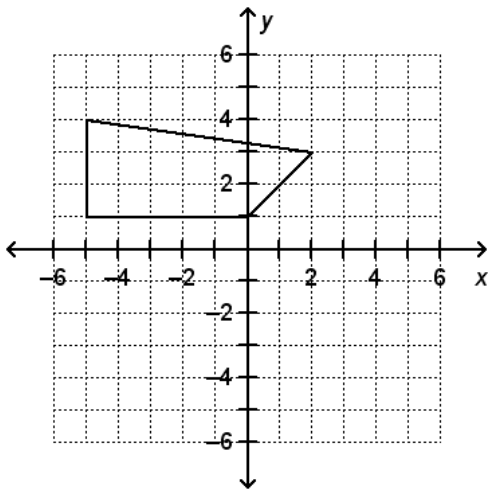
Day 21

50. Figure B is the image of figure A after a dilation centered at the origin. What is the scale factor of the dilation?



a. $\frac{1}{3}$
b. $\frac{1}{2}$
c. 1
d. 3

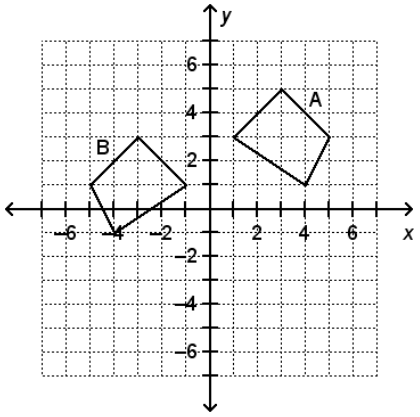
51. The figure shown is rotated 180° clockwise about the origin. Which ordered pairs are the vertices of the image?



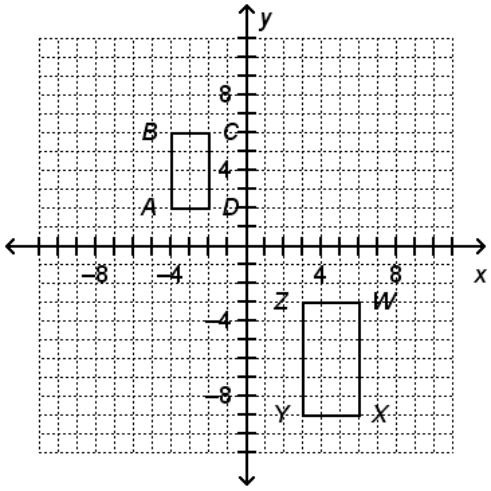
a. (5, –4)
b. (5, –1)
c. (1, 5)
d. (0, –1)
e. (3, –2)
f. (–2, –3)

Day 22

52. Mila claims that the image of a figure reflected across the *x*-axis and translated 2 units down is given by the rule $(x, y) \rightarrow (-x, y - 2)$. Using this rule, Mila found the image of figure A to be figure B below. Is Mila correct? If not, state the correct rule and explain, and then find the correct image of figure A.



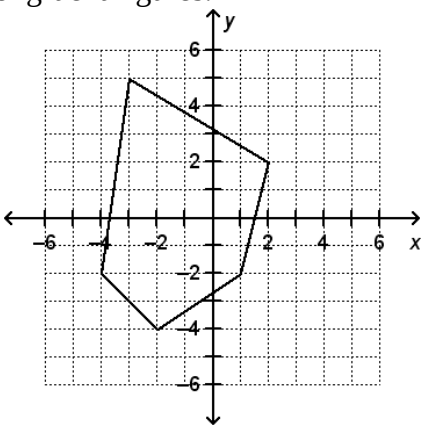
53. Which sequence of transformations maps rectangle *ABCD* to rectangle *WXYZ* and shows that *ABCD* ~ *WXYZ*?



a. $(x, y) \rightarrow (x + 4, y - 4)$ followed by $(x, y) \rightarrow (1.5x, 1.5y)$
b. $(x, y) \rightarrow (1.5x + 1.5y)$ followed by $(x, y) \rightarrow (x + 9, y - 6)$
c. $(x, y) \rightarrow (-x, -y)$ followed by $(x, y) \rightarrow (1.5x, 1.5y)$
d. $(x, y) \rightarrow (1.5x, 1.5y)$ followed by $(x, y) \rightarrow (-x, y)$

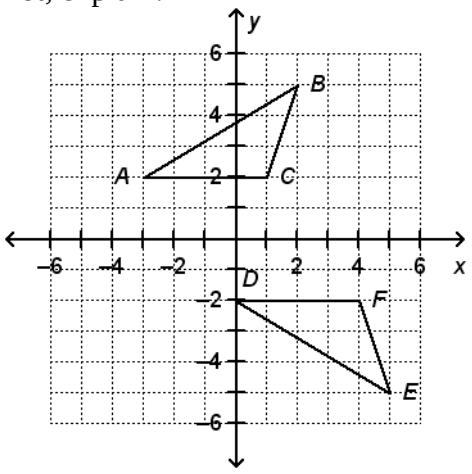
Day 23

54. Select two answers that result in similar but NOT congruent figures.



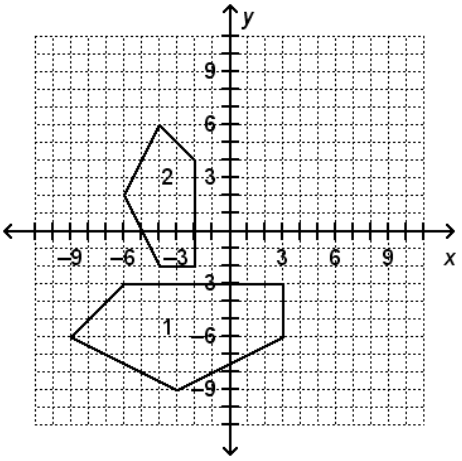
a. $(x, y) \rightarrow (x - 3, y + 8)$ followed by $(x, y) \rightarrow (y, -x)$
b. $(x, y) \rightarrow (-x, y)$ followed by $(x, y) \rightarrow (5x, 5y)$
c. $(x, y) \rightarrow (x, -y)$ followed by $(x, y) \rightarrow (x - 3, y)$
d. $(x, y) \rightarrow (0.1x, 0.1y)$ followed by $(x, y) \rightarrow (-y, x)$

55. Is $\triangle ABC \sim \triangle DEF$? If so, give a sequence of transformations that maps $\triangle ABC$ to $\triangle DEF$. If not, explain.

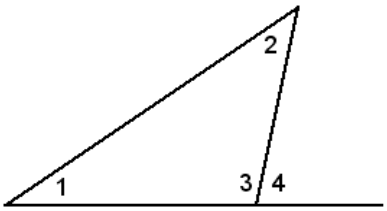


Day 24

56. Callie claims that figure 1 and figure 2 are neither congruent nor similar. Is Callie's claim correct? If so, explain. If not, find a sequence of transformations that maps figure 1 to figure 2 and shows that they are congruent, similar, or both.



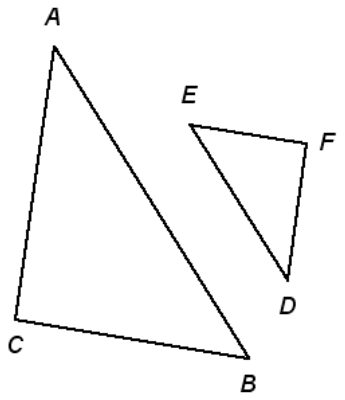
57. In the triangle, m∠1 = 42° and m∠4 = 81°. What is m∠2?



a. 39°
b. 42°
c. 99°
d. 123°

Day 25

58. Which of the following guarantees that ΔABC and ΔDEF are similar triangles?



a. $\angle B \cong \angle E$ and $\overline{BC} \cong \overline{EF}$
b. $\angle C \cong \angle F$ and $\overline{AC} \cong \overline{DF}$
c. $\angle B \cong \angle E$ and $\angle C \cong \angle F$
d. $\overline{BC} \cong \overline{EF}$ and $\overline{AC} \cong \overline{DF}$

59. Which set of angles does NOT form a triangle?

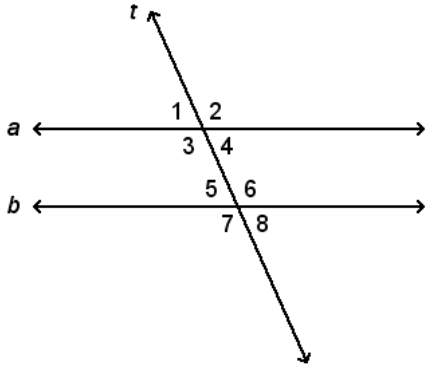
a. 85°, 43°, and 52°
b. 90°, 37°, and 51°
c. 37°, 65°, and 78°
d. 120°, 12°, and 48°

60. Suppose two parallel lines are cut by a transversal. What angle relationships describe congruent angles in this context? Choose all that apply.

a. Corresponding angles
b. Linear pair
c. Same-side interior angles
d. Same-side exterior angles
e. Alternate exterior angles
f. Alternate interior angles

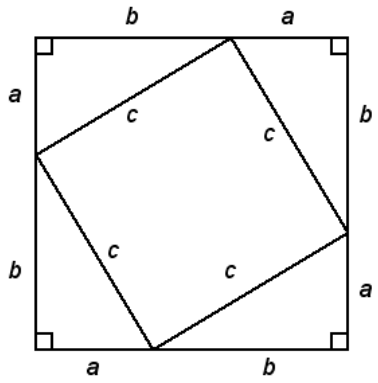
Day 26

61. Parallel lines *a* and *b* are cut by the transversal *t*. Which statement is true?



a. $\angle 3$ and $\angle 4$ are corresponding angles.
b. $\angle 4$ and $\angle 5$ are alternate interior angles.
c. $\angle 2$ and $\angle 5$ are alternate exterior angles.
d. $\angle 3$ and $\angle 4$ are same-side interior angles.

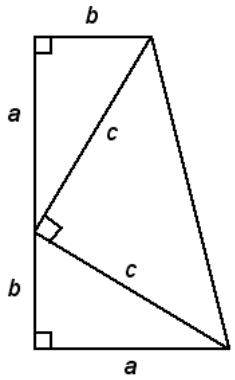
62. The diagram below is used to prove the Pythagorean Theorem. What expression represents the length of a side of the larger square in the diagram?



a. *c*
b. *a* + *b*
c. *a* – *b*
d. *b* – *a*

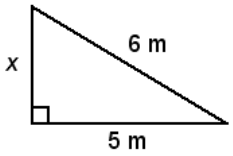
Day 27

63. The diagram below is used to prove the Pythagorean Theorem. What is the area of the trapezoid in the diagram?



a. $\frac{1}{2}(a+b)(b+c)$
b. $\frac{1}{2}(a-b)(a+b)$
c. $(a+b)^2$
d. $\frac{1}{2}(a+b)^2$

64. What is the unknown side length, to the nearest tenth of a meter, in the triangle shown?



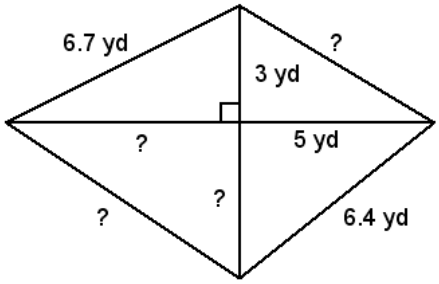
a. 1.0 m
b. 3.3 m
c. 7.8 m
d. 11.0 m

65. The size of a computer screen is measured along the diagonal. What is the approximate size, measured to the nearest inch, of a 12 in. by 10.5 in. computer screen?

a. 6 in.
b. 16 in.
c. 23 in.
d. 254 in.

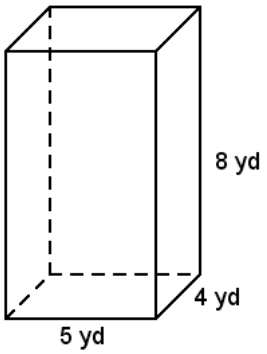
Day 28

66. Which measurements, rounded to the nearest tenth of a yard, are the unknown lengths in the figure shown? ***Select all that apply.***



a. 4.0 yd
b. 5.8 yd
c. 6.0 yd
d. 7.2 yd
e. 7.3 yd
f. 8.1 yd

67. Which measurements, rounded to the nearest tenth of a yard, are the lengths of a diagonal of the right rectangular prism or any space diagonal of a face of the prism?
Select all that apply.

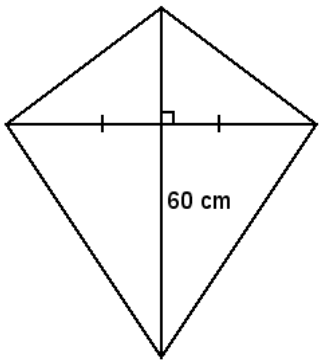


a. 6.2 yd
b. 6.4 yd
c. 8.9 yd
d. 9.4 yd
e. 10.2 yd
f. 12.0 yd

Day 29

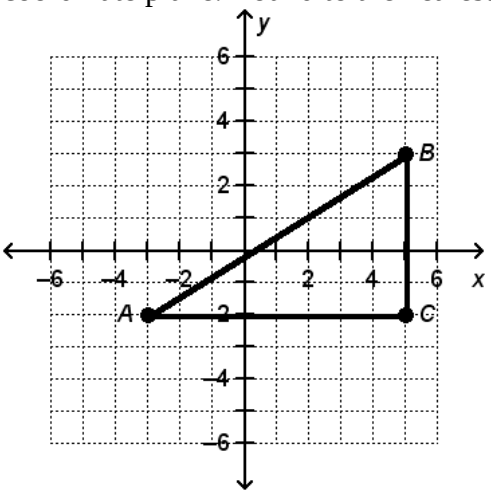
68. Maurice is cleaning out the rain gutters on his house. To get to the gutters, he places a 24 ft ladder against the house so that the top of the ladder reaches the bottom of the gutters. He places the bottom of the ladder so that it is 7 ft from the house. Draw a right triangle to illustrate this situation. Approximately how high off the ground are the gutters? Show your work. Round your answer to the nearest foot.

69. Manuel is making a kite. He cuts out a piece of cloth in the shape shown. He uses two sticks as supports. The vertical stick is 90 cm long, and the horizontal stick is 80 cm long. They intersect at a right angle 60 cm from the bottom of the vertical stick. The vertical stick bisects the horizontal stick, as shown. Manuel wants to add a border around the perimeter of the kite. What is the length of material Manuel will need for the border? Show your work. Round your answer to the nearest centimeter.



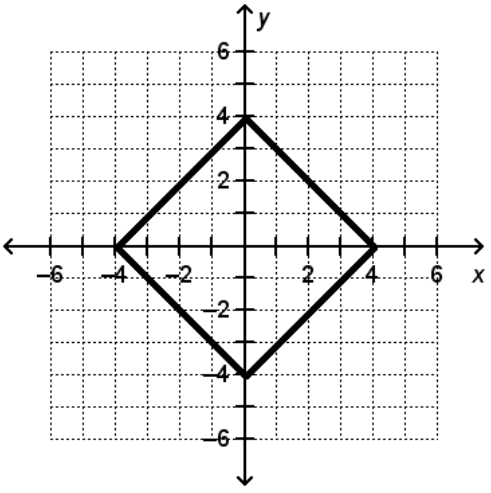
Day 30

70. Find the length of $\overline{AB}$ in ΔABC shown on the coordinate plane. Round to the nearest unit.



a. 5
b. 8
c. 9
d. 13

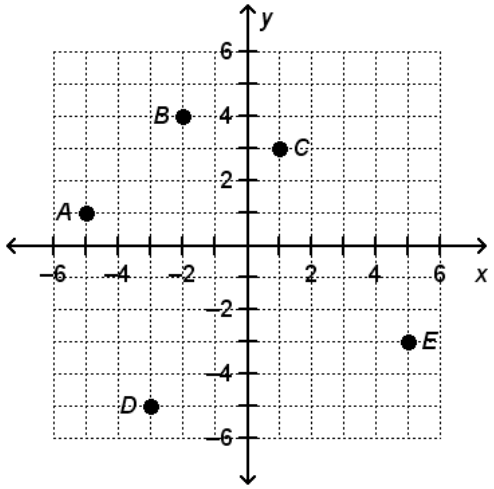
71. Find the perimeter of the square shown. Round to the nearest tenth.



a. 5.7
b. 16.0
c. 22.6
d. 32.0

Day 31

Using the coordinate plane, match each segment with its corresponding length rounded to the nearest tenth.



a. 3.2
b. 4.2
c. 7.2
d. 8.2
e. 8.9
f. 9.1
g. 9.9
h. 10.8

72. $\overline{AB}$

73. $\overline{CE}$

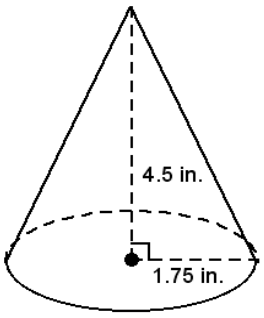
74. $\overline{BE}$

75. $\overline{BD}$

76. $\overline{CD}$

Day 32

77. What is the volume of the cone with the given dimensions? Use 3.14 for π. Round your answer to the nearest tenth of a cubic inch.



a. 8.25 in^3
b. 14.4 in^3
c. 43.3 in^3
d. 57.7 in^3

78. What is the formula for the volume of a sphere with diameter *d*?

a. $V = \frac{1}{3}\pi\left(\frac{d}{2}\right)^3$
b. $V = 4\pi d^3$
c. $V = \frac{4}{3}\pi\left(\frac{d}{2}\right)^3$
d. $V = \frac{4}{3}\pi d^3$

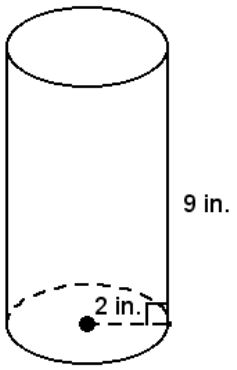
79. A cylindrical soup can has a height of $3\frac{1}{2}$ in. and a diameter of $2\frac{1}{8}$ in. What is the volume of the soup can? Use 3.14 for π. Round to the nearest tenth of a cubic inch.

a. 4.1 in^3
b. 12.4 in^3
c. 23.4 in^3
d. 49.6 in^3

Day 33

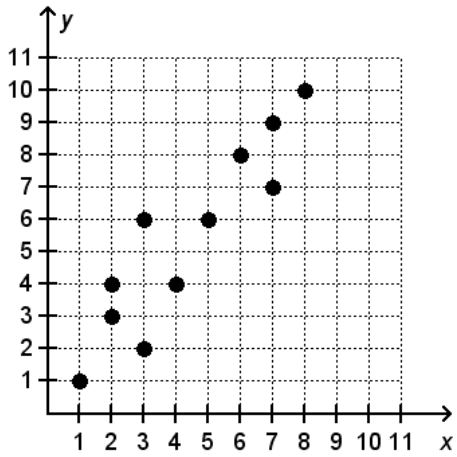
80. The radius of a softball is 3.75 cm, and the radius of a table tennis ball is 2 cm. The volume of the softball is how many times greater than the volume of the table tennis ball? Show your work using ratios. Use 3.14 for π. Round to the nearest tenth.

81. Find the volume of a cylindrical candle with the given dimensions. Show your work. Use 3.14 for π. Round to the nearest tenth of a cubic inch.



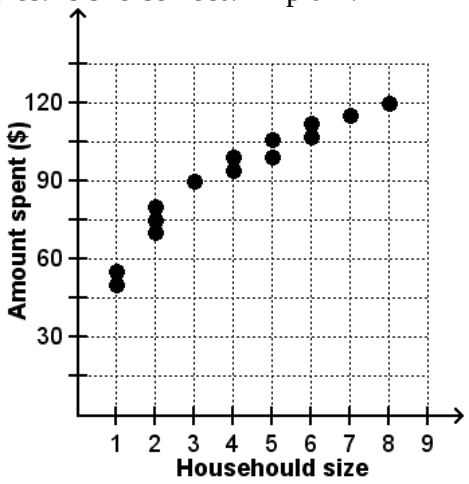
Day 34

82. Which phrase *best* describes the pattern of association between the variables *x* and *y* shown in the scatter plot?



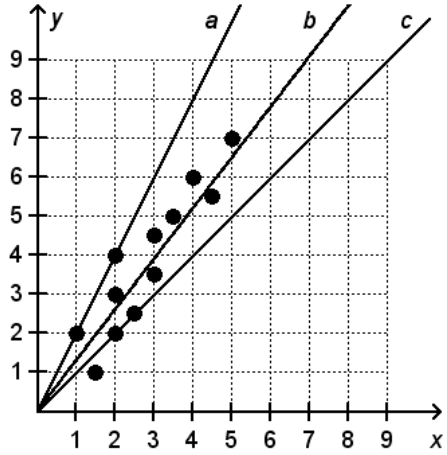
a. A positive, linear association
b. A negative, linear association
c. A positive, nonlinear association
d. No association

83. Sydney made a scatter plot of the amount of money, in dollars, that different-sized households spend on groceries each week. She claims there is no association between the two variables. Is she correct? Explain.



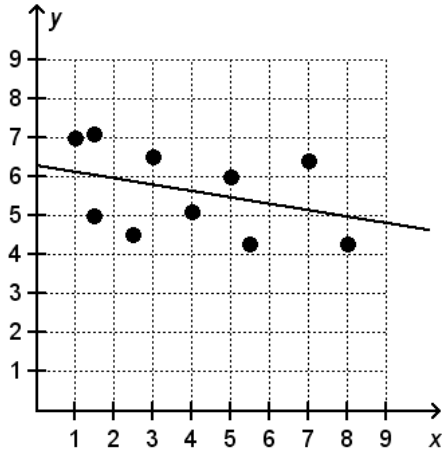
Day 35

84. Which of the following lines *best* fits the data shown in the scatter plot?



a. Line *a*
b. Line *b*
c. Line *c*
d. None of the lines fit the data well.

85. Which statements *best* describe the line and its fit to the data points shown? Choose all that apply.



a. The line fits the data well because it follows the general trend of the data, which is positive and linear.

b. The line fits the data well because it follows the general trend of the data, which is negative and linear.

c. The line does not fit the data well because it does not follow the general trend of the data.

d. There are about an equal number of data points above and below the line, so it fits the data well.

e. There are about an equal number of data points above and below the line, so it does not fit the data well.

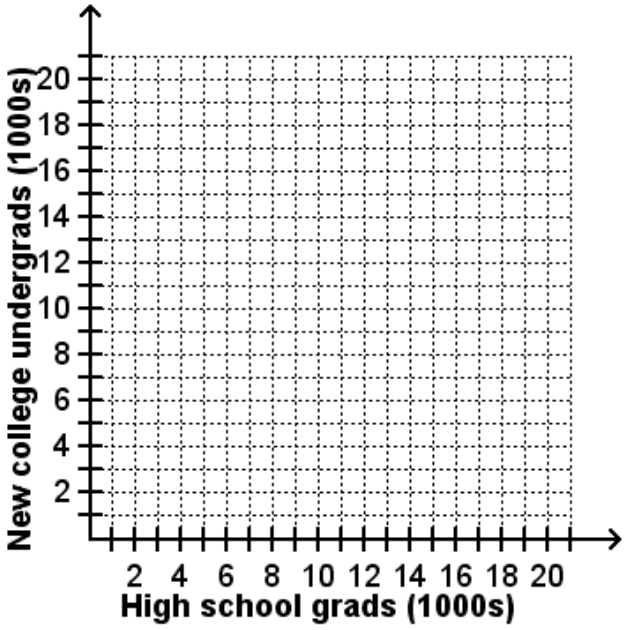
f. The points are close to the line, so there is a strong linear association between the values of *x* and *y*.

g. The points are far from the line, so there is a weak linear association between the values of *x* and *y*.

Day 36

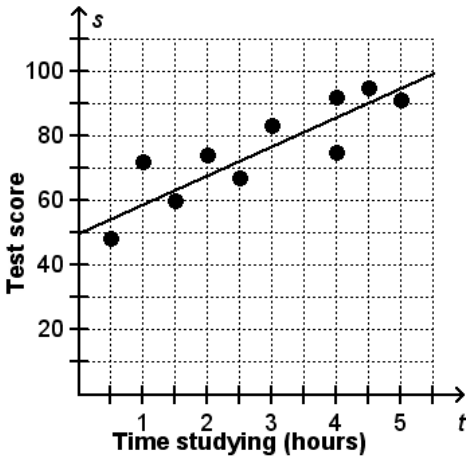
86. Walter is comparing the number of high school graduates, in thousands, in his state each spring over the past 11 years and the number of new college undergraduates, in thousands, at a public university in his state each fall. The data are shown in the table. Walter wants to estimate the number of new college undergraduates if there are 13,000 high school graduates, but he claims he cannot do this from the given data. Is Walter's claim correct? Explain. Graph the data in the table to support your answer. If Walter is incorrect, find the estimated value.

High school graduates (thousands)	New college undergraduates (thousands)
9	6
10	6
12	8
15	9
15	10
16	10
17	14
18	14
18	13
18	15
19	15



Day 37

87. Ms. Jackson asked each of her students how much time *t*, in hours, they studied for the test. She paired these numbers with the students' test scores *s* and created the scatter plot shown. The equation of the trend line is $s = 9t + 50$. On average, how does a student's score change for each additional hour of studying?



a. Decreases by 9 points

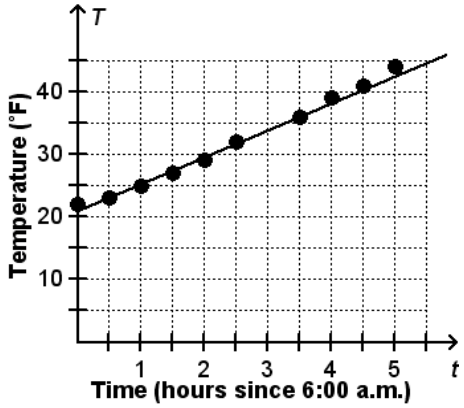
b. Increases by 9 points

c. Decreases by 50 points

d. Increases by 50 points

Day 38

The scatter plot shows the temperature *T*, in degrees Fahrenheit, recorded on a particular day at various times *t*, in hours since 6:00 a.m. The equation of the trend line is $T = 4.3t + 21$. ***Use the trend line to match each description with its value.***



a. 4.3 °F
b. 21 °F
c. 33.9 °F
d. 47 °F
e. 6:00 a.m.
f. 8:30 a.m.
g. 11:00 a.m.
h. Noon (12:00 p.m.)

88. The temperature at 6:00 a.m.

89. The time, to the nearest half hour, at which the temperature reached freezing (32 °F)

90. The temperature at 9:00 a.m.

91. The increase in temperature each hour

92. The time, to the nearest half hour, at which the temperature will reach 47 °F

Day 39

93. In a poll, 150 students were asked if they prefer camping or going to the beach during their summer vacations and their gender. The data are shown in the two-way frequency table. What is the relative frequency of students who prefer going to the beach among all the students polled?

	Camping	Beach	Total
Boys	36	52	88
Girls	24	38	62
Total	60	90	150

a. 25.3%
b. 34.7%
c. 40%
d. 60%

94. In a poll, 100 people were asked to indicate if they prefer to drive a truck or a car and their gender. The data are shown in the two-way frequency table. Based on the table, which of the following statements is NOT true?

	Truck	Car	Total
Men	24	28	52
Women	12	36	48
Total	36	64	100

a. Women are more likely to prefer driving cars than men.
b. Men are less likely to prefer driving trucks than women.
c. Women are less likely to prefer driving trucks than men.
d. Men are less likely to prefer driving cars than women.

Day 40

95. Jordan asked 100 students at her school if they prefer cats or dogs. She also recorded their gender. The data are shown in the two-way frequency table. Based on the table, which of the following statements are true?
Select all that apply.

	Prefer cats	Prefer dogs	Total
Boys	8	38	46
Girls	24	30	54
Total	32	68	100

a. Boys are less likely than girls to prefer cats.

b. Girls are more likely than boys to prefer dogs.

c. Boys are equally as likely as girls to prefer dogs.

d. A student is more likely to prefer dogs to cats.

e. A girl is more likely to prefer dogs to cats.

f. A boy is more likely to prefer dogs to cats.

96. In a poll, 200 computer users were asked if they prefer using a laptop computer or a desktop computer. Their age was also recorded. The data are shown in the two-way frequency table. How does age influence computer preference? Use relative frequencies to explain your answer.

	Laptop	Desktop	Total
40 years old or older	38	55	93
Under 40 years old	86	21	107
Total	124	76	200