1

Evaluate.

$$[(-12 + 4) \div 2^3] + -6$$

2

Evaluate.

$$|4 + 6(-6)| =$$

3

Evaluate.

$$-15| \frac{1}{5} + \left(-\frac{1}{3} \right)$$

4

Simplify.

$$-3(4y - 8) + 5y$$

A) -7y + 24   C) 17y + 12

B) -7y - 8   D) 7y + 8

5

The ratio of apples to oranges in Mr. Hagerty's fridge is 5:3. If there are 96 total pieces of fruit in his fridge, how many apples does he have?

6

Ryan went to Broadway Pizza for his birthday and got 40% off his meal price. Ryan paid $9 for his meal. What was the original price for his meal?
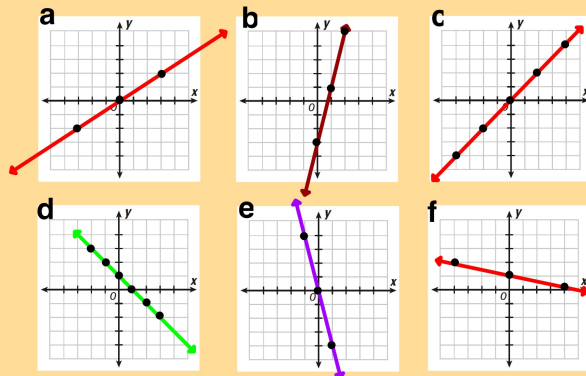
7

A study claimed that in any given month for every 8 tweets a boy posts on Twitter a girl posts 15 tweets. Choose which table represents this as a proportional relationship between the number of tweets by boys to the number of tweets by girls.
Explain your reasoning.

a

Boys	Girls
8	15
16	23
24	31
32	39

b

Boys	Girls
8	15
10	17
12	19
14	21

c

Boys	Girls
8	15
24	45
40	50
64	120

d

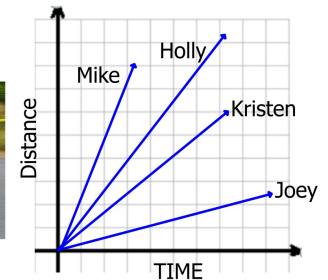| Boys	Girls
8	15
32	60
40	75
16	30

8 *Which graphs are proportio*

a   b   c

d   e   f

9

Here are a list of rates (speeds) each person bikes. Which speed is Kristens?

a.) 6 mph   b.) 12 mph   c.) 18 mph   d.) 2

10

Simplify.

$$27q + 3r - 2r + q - 6r$$

A) 28q - 5r   C) 38q + r
B) 28q + 5r   D) 27q + 11r

11

Simplify Expression

$$12 - x + 10x - 8$$

A) 20 - 9x   B) 4 - 11x

C) 11x - 20   D) 9x + 4

12

Simplify Expression

$$2(-3w - 4) + 7$$

A) -6w - 3   B) -6w - 1

C) -6w - 15   D) -6w - 11

13

Evaluate.   for m = -6

$$\frac{m^2 - 8}{m + 2}$$

14

Evaluate.   for m = -2

$$8 - m + m^4$$

15

Simplify Expression

$$-3(4e + 3)$$

A) 12e - 9   C) -12e - 9
B) e + 1   D) -12e + 3

16 Amelia cuts dog nails for a side job. The table below shows how many dogs she sees and how many paws she needs to clip. Which equation can Amelia use to calculate how many dog paws she clips?

Dogs	Paws
2	8
4	16
6	24

A. $y = \dfrac{x}{2}$

B. $y = \dfrac{x}{4}$

C. $y = 2x$

D. $y = 4x$

17

Evaluate.

$$19 - m \qquad \text{for } m = -9$$

18 Maynard, Bart and Lynda are all robots. Bart is the fastest and Maynard is faster than Lynda. **Which graph matches Bart?**

Distances Robots Travel

d

B

A   (6, 9)

Distance in meters
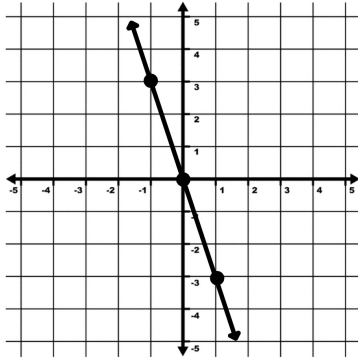
(1, 5)

C

(5, 2)

Time in seconds   t
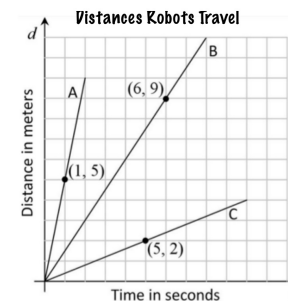
What makes a graph steeper?

What is the equation that represents this graph? How would you explain the slope of the line to your friend?
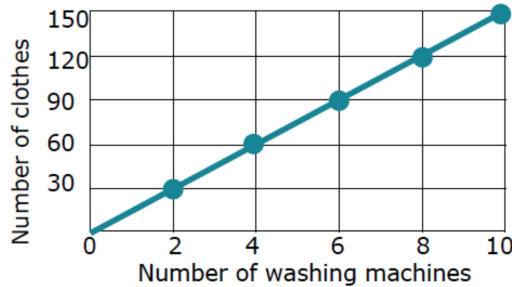
19

A) y = -1/3x
B) y = 3x
C) y =1/3x
D) y = -3x

20

Evaluate.   for x = 4

$$\frac{-2^3 - 3x}{2}$$

21

Which graph matches a lawyer's earnings?

Earnings per hours worked
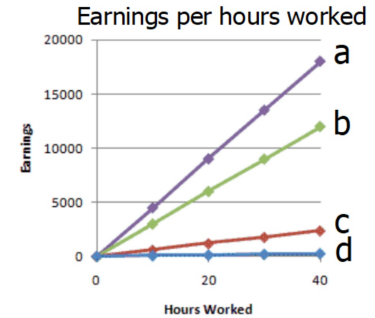
Plumber: $60
Bill Gates: $451
Entry Level: $6
Lawyer: $300

22

What is the constant of proprtionality for the graph?

Number of washing machines used wash clothes.

23

Kai went to Applebee's last friday. His bill came to $28.95. He left a 30% tip because his waiter did such a great job. If you left $40, did he leave too much or not enough? How do you know?

A) just enough
B) not enough
C) too much

24

The ratio of crayons to markers in the craft box was 7:2. If there are a total of 30 markers in the box, how many total items are in the box?

25

Mr. Hanson came home with a brand new TV. He spent $680, but he got it for for 60% off! What was the original price of the TV? **Round to the nearest hundreth**
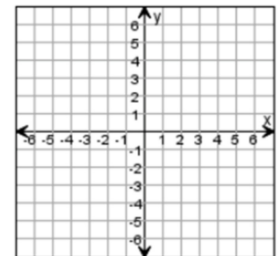
26

The ratio of apples to oranges is 12:8. If there are 45 pieces of fruit, how many apples are there?

27

Triangle *EFG* has vertices *E*(–3, 1), *F*(1, 1), and *G*(4, 5). Find the coordinates of the image of point *E* after a **reflection** across the *x*-axis.

a) (1, –3)
b) (3, –1)
c) (3, 1)
d) (–3,–1)

28 A triangle has vertices (-3, -3), (1, 1), and (3, -4). Choose the statement that best describes the translation $(x, y) \rightarrow (x - 3, y + 6)$. Use the coordinate plane to help you.
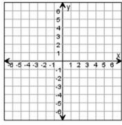
a) The triangle will move to the right 3 units and up 6 units.
b) The triangle will move to the right 3 units and down 6 units.
c) The triangle will move to the left 3 units and up 6 units.
d) The triangle will move to the left 3 units and down 6 is

29 Triangle *EFG* has vertices *E*(3, –1), *F*(1, 1), and *G*(4, 5). Find the coordinates of the image of point G after a **reflection** across the y-axis.
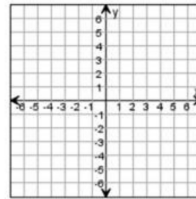
a) (4, –5)
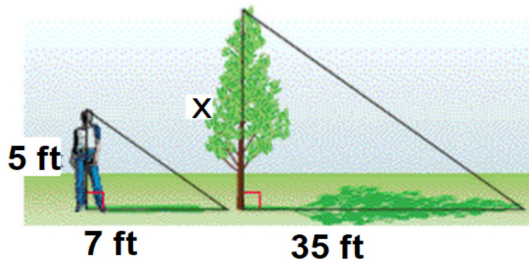b) (–4, 5)
c) (4, 5)
d) (–4,–5)

30 The translation $(x, y) \rightarrow (x - 2, y - 1)$ **was used** to move Rectangle *JKLM* to Rectangle *J′K′L′M′* shown below. Find the coordinates of K.
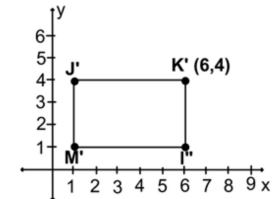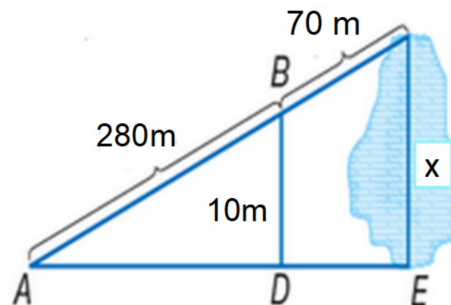
a) (8, 5)
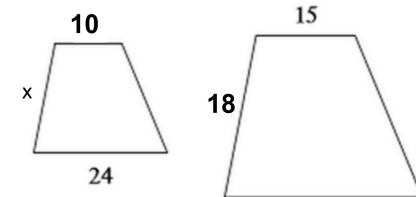b) (4, 5)
c) (7, 5)
d) (8, 3)

31

How tall is the tree?

X

5 ft

7 ft   35 ft

32

What is the length of the lake?

70 m

B

280m

10m

X

A   D   E

33

The polygons are similar. Solve for x.

10

x

18

24

15

34

Evaluate.

$$|47 + (-32)| =$$

35 **Mr. Hanson buys a sandwich every day from Cub Foods. If each sandwich costs $4, make a table, a graph and write an equation to represent this situation.**

X	Y	(x, y)

Equation: _____

36 **It costs $3 to get into the Polar Plunge basketball game. Make a table, a graph and write an equation to represent this situation.**

X	Y	(x, y)

Equation: _____