A.2C - HNDT

Name: _____
Pd: 1 2 3 4 6 7 Date:_4/12/2016_ [STAAR Review: A.2C]

3

SWBAT write the equation given a graph, table or description. (A.2C)

Verbal Description

In the teacher work room there is a coffee maker. At the start of the year, each teacher pays $3 to supply the coffee for the year, then each time a teacher uses the machine, teachers' pay $0.50.

Equation:

Verbal Description

Suppose the total cost, C, of renting a car is $25 per day plus an initial fee of $100. Which equation best describes this relationship if d represents the number of days the car is rented?

F $C = 100d - 25$

G $C = 100d + 25$

H $C = 25d - 100$

J $C = 25d + 100$

Table

Which equation best describes the relationship between the corresponding values of x and y shown in the table?

x	y
−2	−1
0	3
1	5
3	9

A $y = x + 1$

B $y = 2x - 3$

C $y = 2x + 3$

D $y = 3x + 5$

Graph

Which equation(s) best represent the line graphed below

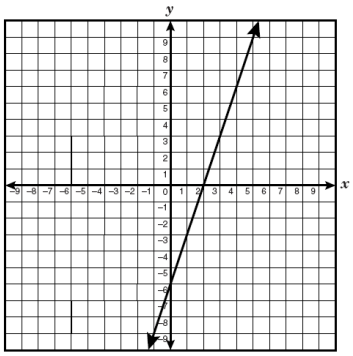
A y = (x- 4)(x+2)

B $3x - y = 6$

C $x - 3y = -6$

D y + 3 = 3(x - 1)

E y = -3x + 6



Independent Practice

1.

Which equation best describes the functional relationship in the data set?

$\{(-3, -7), (0, -1), (2, 3)\}$

A $y = -4x - 5$

B $y = -2x - 1$

C $y = 2x - 1$

D $y = 3x + 2$

2.

The temperature in degrees Fahrenheit F is the sum of $\frac{9}{5}$ the temperature in degrees Celsius C and the constant 32. Which equation best represents this relationship?

F $F = \frac{9}{5}C + 32$

G $F = \frac{9}{5}(C + 32)$

H $F = \frac{9}{5} + C + 32$

J $F = \frac{9}{5}(C - 32)$

3. Which function includes the data set {(2, 4), (6, 6), (12, 9)}?

A $y = 2x$

B $y = \frac{x}{2}$

C $y = 2x - 9$

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

4. The table below shows various values for x and y.

Which equation best describes the relationship between x and y?

A $y = -3x + 5$

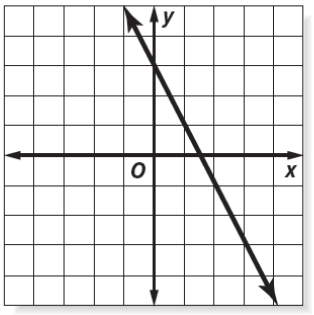
B $y = -5x - 7$

C $y = -x + 17$

D $y = 3x + 41$

x	y
–6	23
–2	11
7	–16
11	–28

5. Which equation best represents the graph shown below?



A -4x – 2y = -6

B y = (x+3)(2x-1)

C y = 1/2x + 3

D y + 1 = -2(x-1)

6. The algebraic form of a linear function is $d = \frac{1}{4}l$, where d is the distance in miles and l is the number of laps. Which of the following choices identifies the same linear function?

F For every 4 laps on the track, an athlete runs 1 mile.

G For every lap on the track, an athlete runs $\frac{1}{8}$ mile.

H

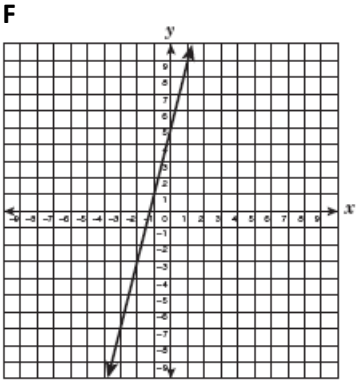
l	d
0	0
2	$\frac{1}{2}$
4	$\frac{1}{4}$

J

l	d
$\frac{1}{4}$	1
1	4
4	16

7. Which of the following best represents the graph of the equation $4x - y = -5$?

F



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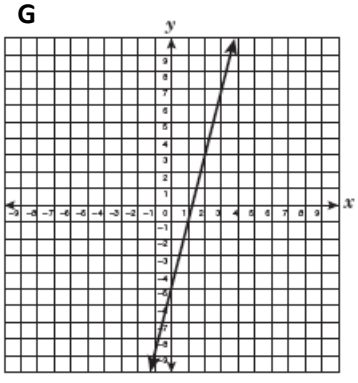

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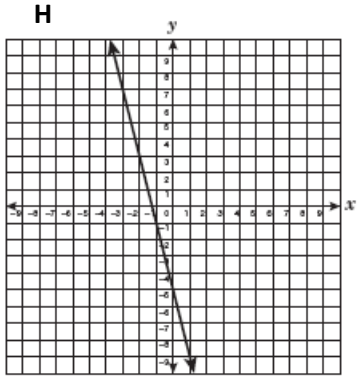

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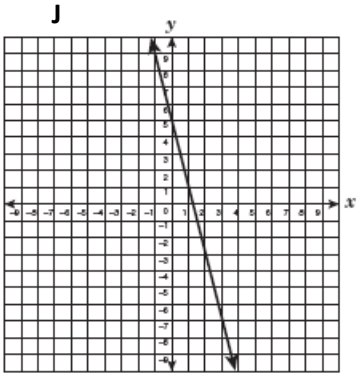

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Practice A.2(C)

Write linear equations in two variables given a table of values, a graph, and a verbal description.

Multi-Step Example

Ernest is buying T-shirts for his student club. The store from which he is purchasing them charges a $25 set-up fee, plus $6 for each T-shirt ordered. Write an equation that determines the cost, *C*, for *t* T-shirts.

The $25 set-up fee is a fixed cost, which Ernest will have to pay even if 0 T-shirts are bought. This means that the *y*-intercept is 25, *b*. The $6 fee per shirt represents a rate and is therefore the slope, *m*. The equation is $C = 25 + 6t$.

1 Which equation best describes the relationship between the corresponding values of *x* and *y* shown in the table?

x	*y*
−2	−1
0	3
1	5
3	9

A $y = x + 1$

B $y = 2x - 3$

C $y = 2x + 3$

D $y = 3x + 5$

2 Suppose the total cost, *C*, of renting a car is $25 per day plus an initial fee of $100. Which equation best describes this relationship if *d* represents the number of days the car is rented?

F $C = 100d - 25$

G $C = 100d + 25$

H $C = 25d - 100$

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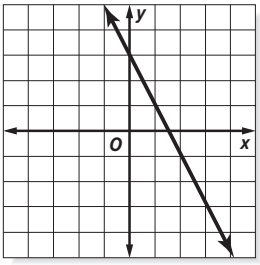
3 Which equation best represents the graph shown below?



A $y = 3 + 2x$

B $y = 3 - 2x$

C $y = 2 + 3x$

D $y = 2 - 3x$

4 Carter sells sports videos to local businesses in his area. His daily wage, *W*, is based on the number of hours he works, *H*, at the minimum wage of $7.25 per hour, plus $10 to cover gas and lunch expenses. Which equation best describes this relationship?

F $W = 10H + 7.25$

G $W = 7.25H + 10$

H $W = 10H + 7.25H$

J $W = 7.25H$

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Practice A.2(C) *(continued)*

5 At an arcade, there is a fee to purchase a game card. Any number of credits can then be added to the card at a constant cost per credit. Jude buys a card with 50 credits and it costs him $17. Audrey buys a card with 80 credits and it costs $26. How much would a card with 75 credits cost?

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

6 Which equation best describes the functional relationship in the data set?

$\{(-3, -7), (0, -1), (2, 3)\}$

A $y = -4x - 5$

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7 The temperature in degrees Fahrenheit F is the sum of $\frac{9}{5}$ the temperature in degrees Celsius C and the constant 32. Which equation best represents this relationship?

F $F = \frac{9}{5}C + 32$

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H $F = \frac{9}{5} + C + 32$

J $F = \frac{9}{5}(C - 32)$

8 The distance from Abilene to Amarillo is about 285 miles. Which of the following equations describes the remaining distance to Amarillo for a car that travels from Abilene at a rate of 50 miles per hour?

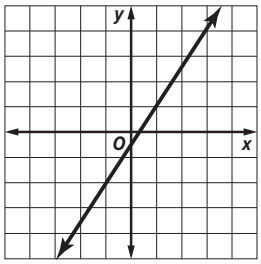
A $y = 285 + 50x$

B $y = 285 - 50x$

C $y = 50 + 285x$

D $y = 50 - 285x$

9 What is the equation of the line shown in the graph below?



F $y = \frac{1}{2}x + \frac{3}{2}$

G $y = \frac{1}{2}x - \frac{3}{2}$

H $y = \frac{3}{2}x + \frac{1}{2}$

J $y = \frac{3}{2}x - \frac{1}{2}$

10 A car rental company charges a flat, daily fee, plus a fixed cost per mile driven. One day, Becky drives 50 miles and is charged $145. The next day, she drives 90 miles and is charged $193. What is the cost per mile?

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

11 The Wyler Aerial Tramway in Franklin Mountains State Park begins at the tramway station, which is at an elevation of 4692 feet. It takes 4 minutes to reach Ranger Peak, which is at an elevation of 5632 feet. What equation is used to estimate the height E of the tramway t seconds after it left the station?

A $E = 4692 - 3.9t$

B $E = 4692 + 3.9t$

C $E = 5623 + 3.9t$

D $E = 5623 - 4692t$