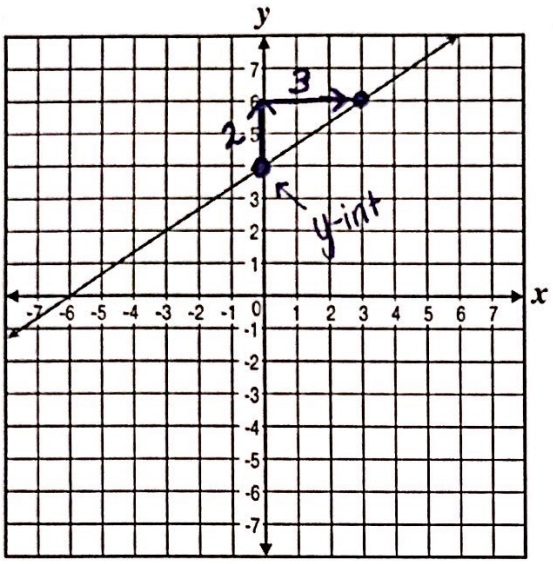
Unit 5 Linear Functions Practice Test

Name: Key Date: _____

1. Which equation represents the line shown in the graph below?



(A.) $y = \frac{2}{3}x + 4$ B. $y = \frac{2}{3}x - 6$

C. $y = \frac{3}{2}x + 4$ D. $y = \frac{3}{2}x - 6$

2. Look at the table of values.

x	y
−1	−4
0	−1
1	2
2	5
3	8

y-int

+1, +3

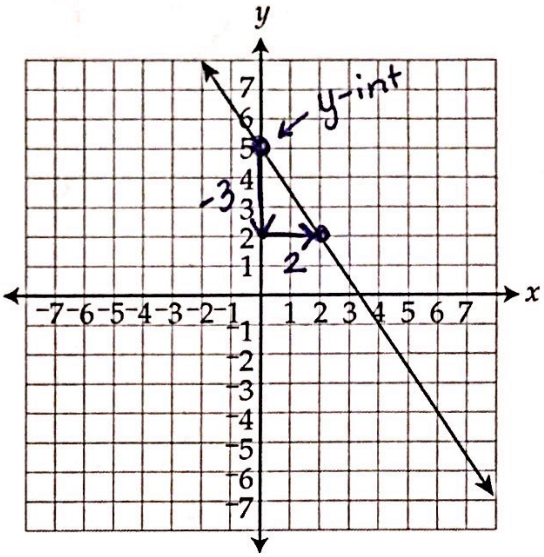
$\frac{\Delta y}{\Delta x} = \frac{3}{1} = 3$

Which equation represents the relationship between x and y?

A. $y = x - 3$ B. $y = 3x + 1$

C. $y = -x - 3$ (D.) $y = 3x - 1$

3. Use the graph below to answer the following question.



Which is an equation of the line?

A. $y = \frac{-2}{3}x + 5$ B. $y = \frac{2}{3}x - 5$

(C.) $y = \frac{-3}{2}x + 5$ D. $y = \frac{3}{2}x - 5$

4. Which equation represents the data in the table?

n	C
10	70
20	100
30	130
40	160

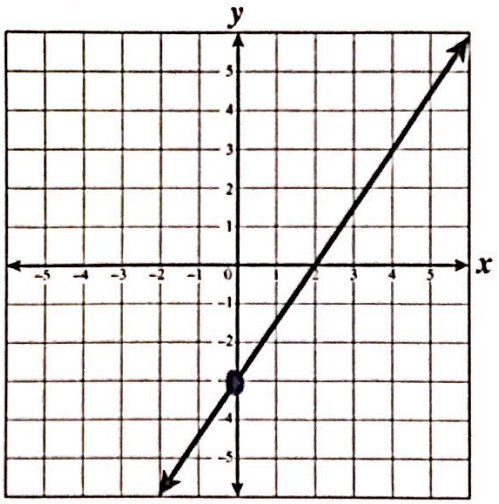
−10, +10; −30, +30

$\frac{\Delta y}{\Delta x} = \frac{30}{10} = 3$

(A.) $C = 3n + 40$ B. $C = -3n - 40$

C. $C = 3n - 100$ D. $C = -3n + 100$

5. A line is shown on the coordinate grid below.

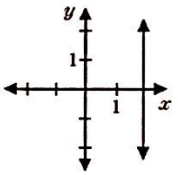


Which of the following best represents the y-intercept of the line?

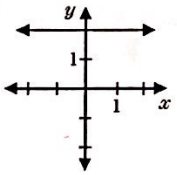
A. 2 B. $\frac{3}{2}$ C. $-\frac{2}{3}$ D. -3

6. Which is the graph of the equation $y = 2$?

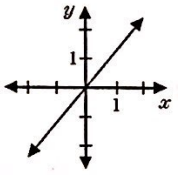
A.



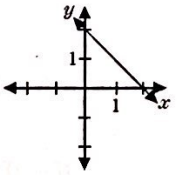
B.



C.

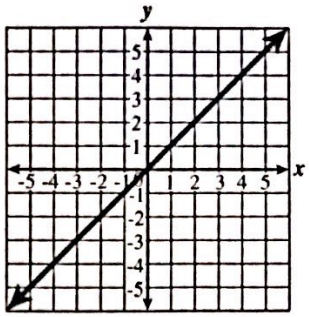


D.

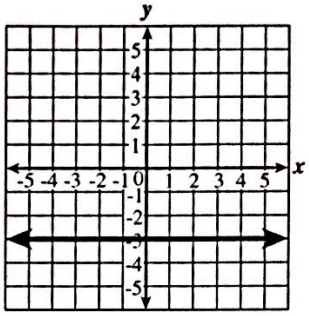


7. Which of the following best represents the graph of a line with an undefined slope?

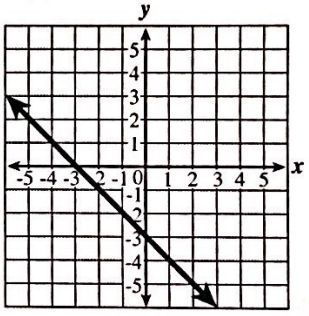
A.



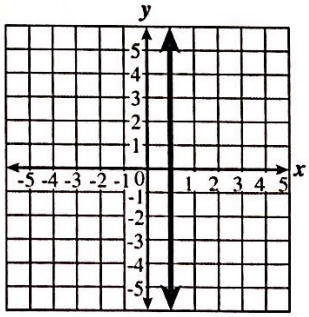
B.



C.



D.



8. Which equation represents the pattern shown in the table below?

x	1	2	3	4	5
y	6	10	14	18	22

+4 +4 +4

A. $y = x + 4$ B. $y = 3x + 3$

C. $y = 4x + 2$ D. $y = 6x$

9. The table below shows a relationship between x and y.

x	y
−5	14
−1	6
2	0
4	−4

$\frac{\Delta y}{\Delta x} = \frac{-6}{3} = -2$

Which of these equations describes this relationship?

A. $y = \frac{1}{2}x - 6$ B. $y = -\frac{1}{2}x - 2$

C. $y = 2x - 4$ D. $y = -2x + 4$

10. What is the y-intercept of the line $2x - 3y = 12$?

A. $(0, -4)$ B. $(0, -3)$

C. $(2, 0)$ D. $(6, 0)$

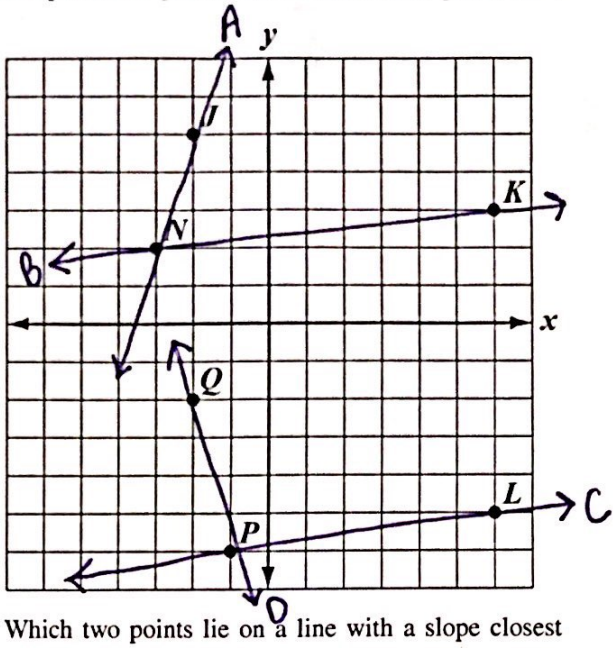
$2x - 3y = 12$

$-2x \quad -2x$

$\frac{-3y}{-3} = \frac{-2x}{-3} + \frac{12}{-3}$

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

11. Six points are plotted on the coordinate grid below.



Which two points lie on a line with a slope closest to zero?

↳ horizontal line

A. N and J B. N and K

C. P and L D. P and Q

12. What is the slope of the line containing the points $(-2, 5)$ and $(1, -7)$?

$x_1\ y_1 \quad x_2\ y_2$

A. −4 B. −2 C. 2 D. 4

$\frac{-7 + -5}{1 + +2} = \frac{-12}{3} = -4$

13. Determine the slope of line with points located at $(-3, 2)$ and $(1, 2)$.

$x_1\ y_1 \quad x_2\ y_2$

A. −2 B. 5

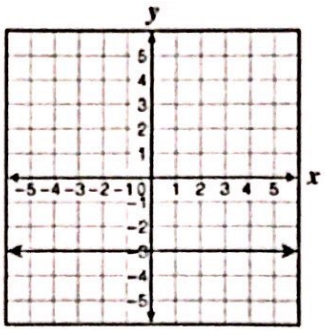
C. 0 D. Undefined

$\frac{2 - 2}{1 - -3} = \frac{0}{4} = 0$

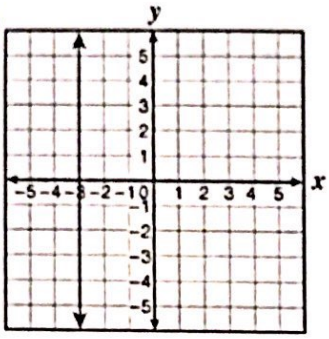
VUX

14. Which *best* represents the graph of $x = -3$?

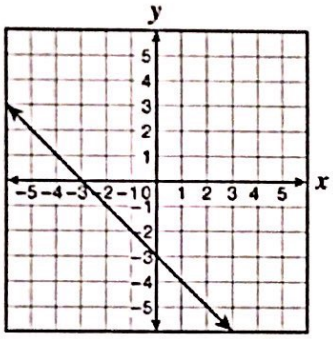
A.



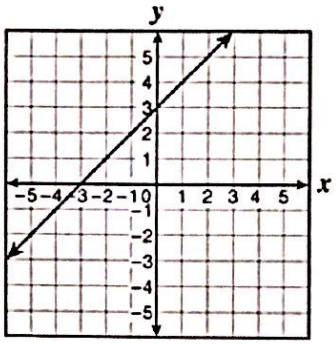
B.



C.



D.



15. Which equation represents the line passing through the points $(-2, 4)$ and $(2, 8)$?

x y

A. $y = -x + 2$ B. $y = -x + 6$

C. $y = x + 4$ D. $y = x + 6$

$$m = \frac{8-4}{2-(-2)} = \frac{4}{4} = 1$$

$y = mx + b$

$8 = 1(2) + b$

$8 = 2 + b$

$6 = b$

$y = x + 6$

16. What is the equation of the line that has a slope of 4 and passes through the point $(3, -10)$?

x y

A. $y = 4x - 22$ B. $y = 4x + 22$

C. $y = 4x - 43$ D. $y = 4x + 43$

$y = mx + b$

$-10 = 4(3) + b$

$-10 = 12 + b$

$-12 \quad -12$

$-22 = b$

$y = 4x - 22$