

Name: Key

No work No credit

Date: \_\_\_\_\_

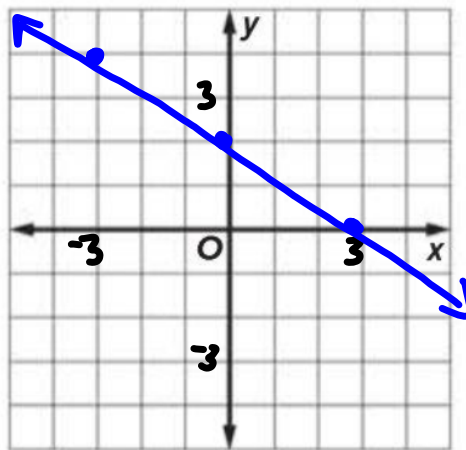
CW # 2-1: Algebra 1 - Sections 4-1 to 4-5

20 points

1. Graph by making a table of values:  $2x + 3y = 6$

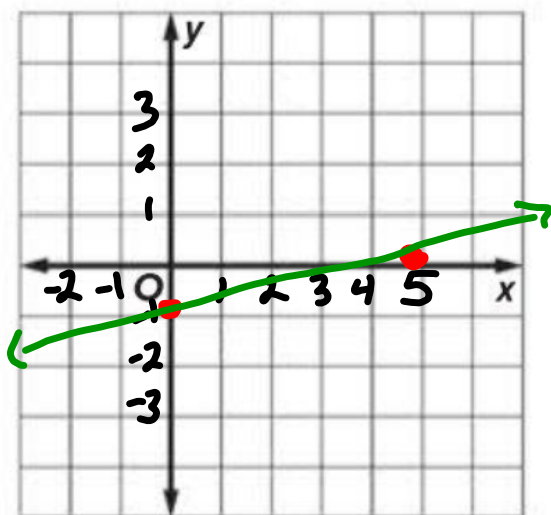
$$\begin{aligned} 2(-3) + 3y &= 6 \\ 3y &= 12 \\ y &= 4 \end{aligned}$$
$$\begin{aligned} 2(0) + 3y &= 6 \\ 3y &= 6 \\ y &= 2 \end{aligned}$$
$$\begin{aligned} 2(3) + 3y &= 6 \\ 3y &= 0 \\ y &= 0 \end{aligned}$$

x	y
-3	4
0	2
3	0



2. Graph each equation by using the x-and y-intercepts.

$$x = 5y + 5$$



$$\begin{aligned} \boxed{x\text{-int}(y=0)} & \left\{ \begin{aligned} \boxed{y\text{-int}(x=0)} \\ 0 &= 5y + 5 \\ -5 &= 5y \\ \boxed{-1 = y} \\ &(0, -1) \end{aligned} \right. \\ x &= 5(0) + 5 \\ \boxed{x = 5} & \\ &(5, 0) \end{aligned}$$

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$$m = \frac{y-y}{x-x}$$

3. Find the slope of the line that passes through each pair of points.

a.  $(9, 4), (5, -3)$

$$m = \frac{4 - (-3)}{9 - 5} = \boxed{\frac{7}{4}}$$

b.  $(0, 5), (5, 5)$

$$m = \frac{5 - 5}{5 - 0} = \frac{0}{5} = \boxed{0}$$

4. Determine whether the function is linear. If it is, state the rate of change.

$\Delta x$

x	-7	-5	-3	-1	0
y	11	14	17	20	23

$\Delta y$

Handwritten annotations:  $\Delta x$  values of +2, +2, +2, +1 are written above the x-values.  $\Delta y$  values of +3, +3, +3, +3 are written below the y-values.

This is NOT a Linear function (NOT a constant change)

5. Find the value of  $r$  so the line that passes through each pair of points has the given slope.

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

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

$$\frac{y-y}{x-x} = m$$
$$\frac{4-8}{r-(-2)} = -\frac{1}{2}$$
$$\frac{-4}{r+2} = -\frac{1}{2}$$
$$r+2 = 8$$
$$\boxed{r=6}$$

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CW # 8: Algebra 1 - Sections 4-1 to 4-5

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6. Write an equation of a line in slope-intercept form with the given slope and y-intercept.

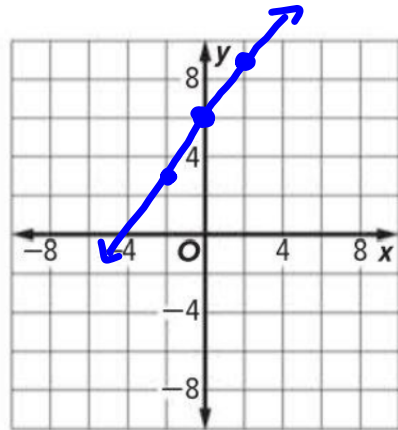
slope:  $\frac{2}{3}$ , y-intercept:  $-5$

$$y = \frac{2}{3}x - 5$$

7. Write the equation in slope intercept form and graph the equation.

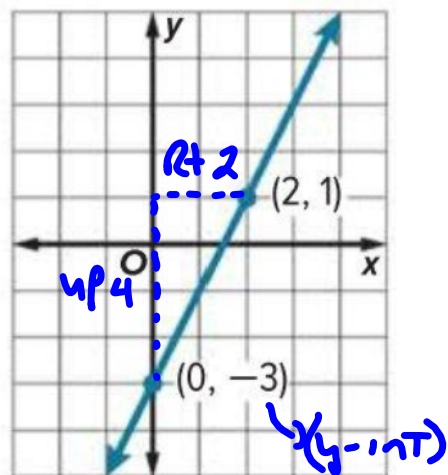
$$\begin{array}{r} -3x + y = 6 \\ \underline{+3x} \quad \underline{+3x} \\ y = \frac{3}{1}x + 6 \end{array}$$

$\frac{3}{1}$  (slope)  $\frac{y-INT}{R+1}$



8. Write an equation in slope-intercept form for each graph shown.

$$\frac{\Delta y}{\Delta x} = \frac{4}{2} = 2 = m$$
$$b = -3$$
$$y = mx + b$$
$$y = 2x - 3$$



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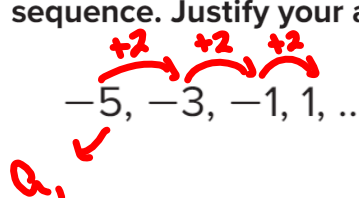
9. **CONSTRUCT ARGUMENTS** Determine whether each sequence is an arithmetic sequence. Justify your argument.

$-5, -3, -1, 1, \dots$

$d = 2$

This is an arithmetic sequence because there is a common difference of 2.

$a_1$

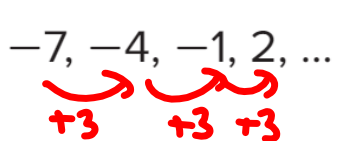


10. Write an equation for the  $n$ th term of each arithmetic sequence.

$-7, -4, -1, 2, \dots$

$d = 3$

$a_1 = -7$



$$a_n = d(n-1) + a_1$$

$$a_n = 3(n-1) - 7$$

OR

$$a_n = 3n - 3 - 7$$

$$a_n = 3n - 10$$

r