Math 1

Name **ANSWER KEY**

Review for Final Exam Assignment #3

Date_____

Sketch the graph of each line. *GET y BY ITSELF*
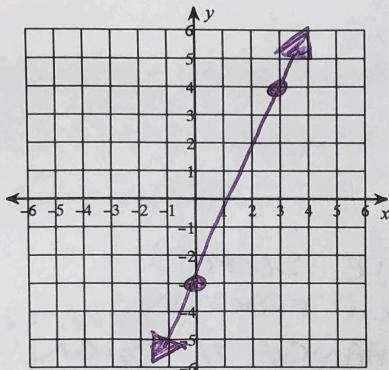
1) $7x + 3y = 9$

2) $6x + 5y = 10$

$7x + 3y = 9$
$-7x \qquad -7x$

$\dfrac{-3y}{\div -3} = \dfrac{9}{\div -3} \dfrac{-7x}{\div -3}$

$y = -3 + \dfrac{7}{3}x$

$\text{SLOPE} = \dfrac{7}{3}$
$y\text{-INT} = -3$
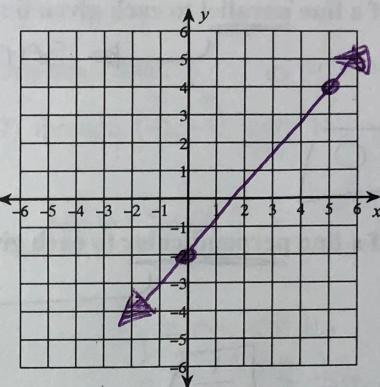
$6x + -5y = 10$
$-6x \qquad -6x$

$\dfrac{-5y}{\div -5} = \dfrac{10}{\div -5} + \dfrac{6x}{\div -5}$

$y = -2 + \dfrac{6}{5}x$

$y\text{-INT} = -2 \qquad \text{SLOPE} = \dfrac{6}{5}$

Find the slope of each line.

3)
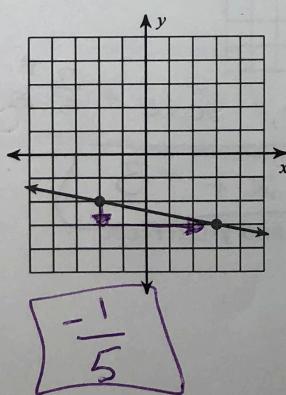
$\dfrac{-1}{5}$

4)
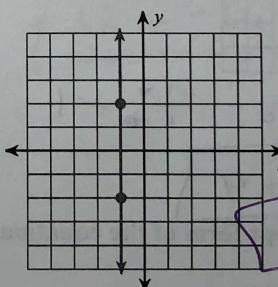
UNDEFINED

Find the slope of the line through each pair of points. $\dfrac{y_2 - y_1}{x_2 - x_1}$

5) $(7, 8), (-11, -14)$
$x_1 \, y_1 \quad x_2 \quad y_2$

$\dfrac{-14 + 8}{-11 + 7} = \dfrac{-22}{+18} = \dfrac{22}{18} = \boxed{\dfrac{11}{9}}$

6) $(0, -12), (14, -5)$
$x_1 \quad y_1 \quad x_2 \quad y_2$

$\dfrac{-5 + 12}{14 - 0} = \dfrac{7}{14} = \boxed{\dfrac{1}{2}}$

-1-

Find the slope of each line.

7) $y = -\dfrac{5}{2}x - 5$

$\boxed{-\dfrac{5}{2}}$

8) $y = \dfrac{1}{5}x + 2$

$\boxed{\dfrac{1}{5}}$

Find the slope of a line parallel to each given line.

9) $y = 5 \Rightarrow$ SLOPE $= 0$ ⟶ SAME SLOPE!

$\boxed{0}$

**Find the slope of a line perpendicular to each given line.**

10) $y = -2x + 5$ ⟶ OPPOSITE SLOPE:
① FLIP FRACTION
② CHANGE +/- SIGN

NEW SLOPE $= \boxed{\dfrac{1}{2}}$

**Write the slope-intercept form of the equation of each line.**

11)
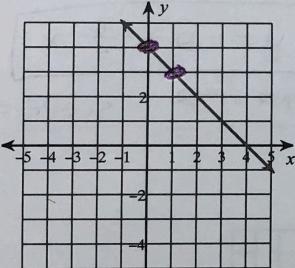
y-INT $= 4$, SLOPE $= \dfrac{-1}{1} = -1$

$\boxed{y = -1x + 4}$

12)
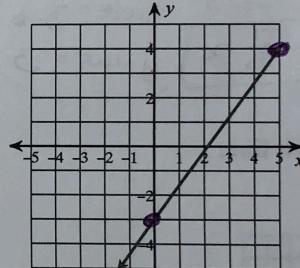
y-INT $= -3$, SLOPE $= \dfrac{7}{5}$

$\boxed{y = \dfrac{7}{5}x + {}^-3}$

Write the slope-intercept form of the equation of each line given the slope and y-intercept.

13) Slope $= -\dfrac{7}{5}$, y-intercept $= -3$

$\boxed{y = -\dfrac{7}{5}x + {}^-3}$

Write the slope-intercept form of the equation of the line through the given point with the given slope.

14) through: $(1, 0)$, slope $= -1$

$\overset{x \quad y}{} \qquad \overset{m}{}$

$y = mx + b$

$y = -1x + b$

$0 = -1(1) + b$

$0 = -1 + b$

$+1 \qquad +1$

$1 = b$

$\boxed{y = -1x + 1}$

-2-

Write the slope-intercept form of the equation of the line through the given points.

15) through: $(1, 1)$ and $(0, 5)$

$x_1\ y_1\quad x_2\ y_2$

$\text{SLOPE} = \dfrac{5-1}{0-1} = \dfrac{4}{-1} = \boxed{-4}$

$y = mx + b$
$y = -4x + b$
$5 = -4(0) + b$
$5 = 0 + b$
$5 = b$

$\boxed{y = -4x + 5}$

Write the slope-intercept form of the equation of the line described.

16) through: $(-1, 4)$, parallel to $y = -x - 2$

$x\ \ y$

NEW SLOPE $= -1$

$y = mx + b$
$y = -1x + b$
$4 = -1(-1) + b$
$4 = 1 + b$
$-1\quad -1$
$3 = b$

$\boxed{y = -1x + 3}$

17) through: $(-1, -4)$, perp. to $y = x - 2$

$x\ \ y$

NEW SLOPE $= -\dfrac{1}{1} = -1$

$y = mx + b$
$y = -1x + b$
$-4 = -1(-1) + b$
$-4 = 1 + b$
$-1\quad -1$
$-5 = b$

$\boxed{y = -1x + -5}$