

Chapter Assessment

SHOW WORK - NENTLY - LABELED - AND ORGANIZED!

Chapter 5

ANSWERS

Find the slope of the line passing through each pair of points.

① $3 = \text{slope}$

1. $(-3, -1), (-1, 5)$

2. $(0, 4), (5, -11)$

3. $(5, -2), (8, 3)$

② $-3 = \text{slope}$

*USE GRAPH PAPER

ALSO

Through the given point, graph a line with the given slope. Write the equation of each line.

③ $\frac{5}{3} = \text{slope}$

5. $(3, -5); \text{slope} = -2$

6. $(-4, -1); \text{slope} = \frac{3}{2}$

⑤ $y = -2x + 1$
*SEE GRAPH PAPER

Find the rate of change = slope

9.

x	y
-6	-5
-2	$-\frac{7}{3}$
0	-1
3	1

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{-\frac{7}{3} - (-5)}{-2 - (-6)} = \frac{-\frac{7}{3} + \frac{15}{3}}{-2 + 6} = \frac{+\frac{8}{3}}{+4} = \frac{8}{12} = \frac{2}{3}$$

$$\frac{-1 + \frac{7}{3}}{2} = \frac{-\frac{3}{3} + \frac{7}{3}}{2} = \frac{\frac{4}{3}}{2} = \frac{4}{6} = \frac{2}{3} \checkmark$$

$\frac{1+1}{3} = \frac{2}{3} \checkmark \therefore \text{RATE OF CHANGE} = \frac{2}{3}$

⑥ $y = \frac{3}{2}x + 5$
*SEE GRAPH PAPER

⑨ $\frac{2}{3} = \text{RATE OF CHANGE}$

MUST BE IN CORRECT FORM!

Write an equation of a line through the given points in Ax + By = C form.

13. $(2, 3), (1, 5)$

⑬ $2x + y = 7$

Write an equation of a line with the given slope and y-intercept. Graph each line. *USE GRAPH PAPER

17. $m = 3, b = -1$

18. $m = \frac{3}{4}, b = 0$

⑰ $y = 3x - 1$
*SEE GRAPH PAPER

⑱ $y = \frac{3}{4}x$
*SEE GRAPH PAPER

NOTE: IN ADDITION TO ANSWERS, YOU SHOULD HAVE ③ GRAPHS ON GRAPH PAPER FROM THIS PAGE!

ANSWER KEY TO CHAPTER 5 EXAM

① $(-3, -1), (-1, 5)$ $m = \text{SLOPE} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{5 - (-1)}{-1 - (-3)} = \frac{6}{2} = \boxed{3 = \text{SLOPE}}$

② $(0, 4), (5, -11)$ $m = \frac{-11 - 4}{5 - 0} = \frac{-15}{5} = \boxed{-3 = \text{SLOPE}}$

③ $(5, -2), (8, 3)$ $m = \frac{3 - (-2)}{8 - 5} = \frac{5}{3} = \text{SLOPE}$

⑤ $(3, -5); \text{SLOPE} = m = -2$
 (x, y)

$y = mx + b \quad \therefore -5 = -2(3) + b$
 $-5 = -6 + b$

$1 = b$
 $\therefore \boxed{y = -2x + 1}$ EQUATION OF LINE, SEE GRAPH PAPER FOR GRAPH.

⑥ $(-4, -1); \text{SLOPE} = \frac{3}{2} = m$
 $(x, y) \quad y = mx + b$

$-1 = \frac{3}{2}(-4) + b$

$-1 = -6 + b$

$5 = b$

$\therefore \boxed{y = \frac{3}{2}x + 5}$ Eq. OF LINE, SEE GRAPH PAPER FOR GRAPH

④ SEE 1st PAGE

⑬ $(2, 3), (1, 5)$ $m = \frac{5 - 3}{1 - 2} = \frac{2}{-1} = -2$
 (x, y)

$y = mx + b \quad \therefore 3 = -2(2) + b$

$3 = -4 + b$

$7 = b$

$\therefore y = -2x + 7$

$\therefore \boxed{2x + y = 7}$

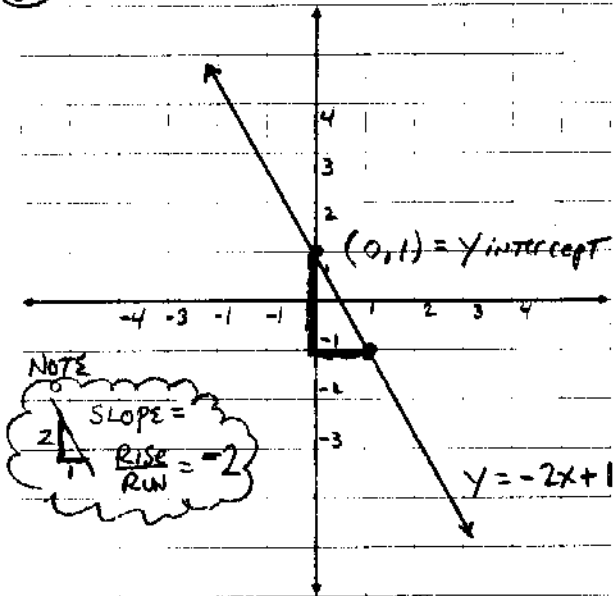
$Ax + By = C$ form

⑰ $m = 3, b = -1 \quad \therefore \boxed{y = 3x - 1}$ SEE GRAPH PAPER

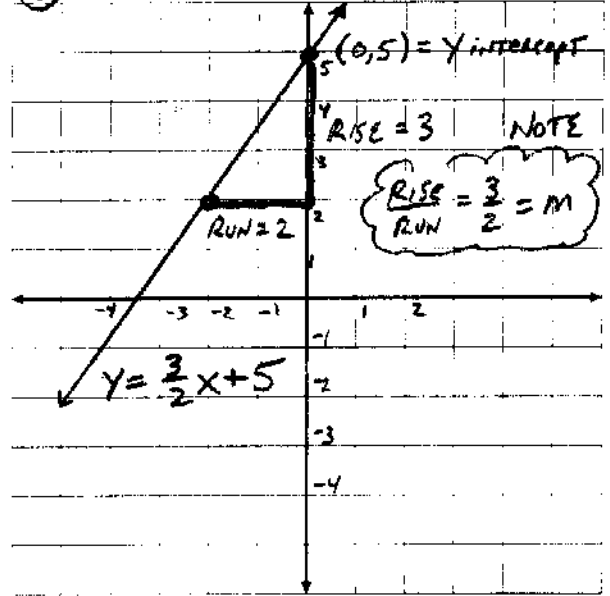
⑱ $m = \frac{3}{4}, b = 0 \quad \therefore \boxed{y = \frac{3}{4}x}$ SEE GRAPH PAPER

Coordinate Planes

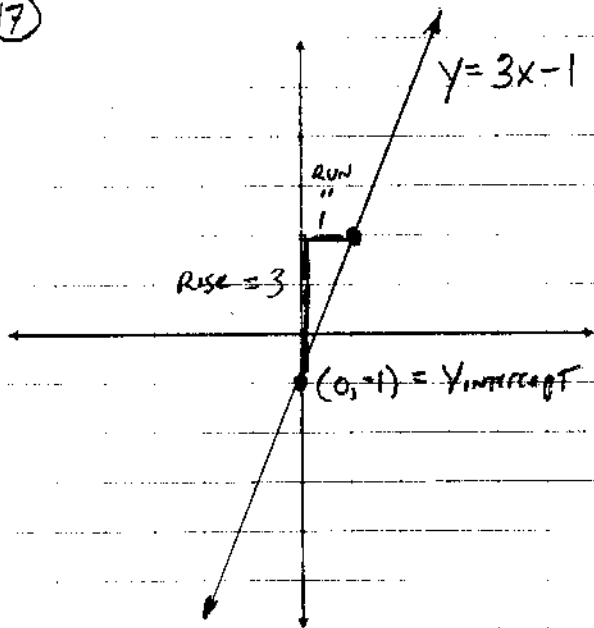
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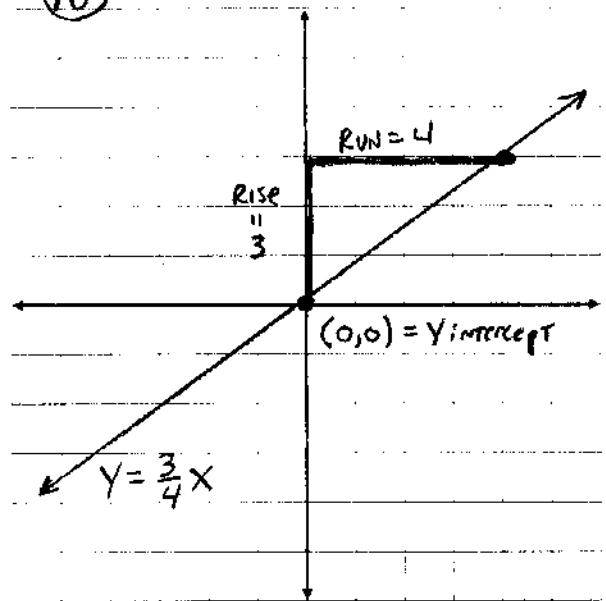
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17



18



Chapter Assessment (continued)

Form A

Chapter 5

22 \perp to $m = 4$ means $\begin{cases} m = -\frac{1}{4} \text{ (negative reciprocal of } +4) \\ \text{through } (5, -1) \quad y = mx + b \\ (x, y) \quad -1 = -\frac{1}{4}(5) + b \\ -\frac{4}{4} = -\frac{5}{4} + b \\ \frac{1}{4} = b \\ \therefore y = -\frac{1}{4}x + \frac{1}{4} \end{cases}$

ANSWERS

Write an equation for a line that satisfies the given conditions.

22. perpendicular to $y = 4x - 7$, through $(5, -1)$

22 $y = -\frac{1}{4}x + \frac{1}{4}$

Tell whether the following lines are parallel, perpendicular, or neither to $y = -\frac{5}{3}x + \frac{3}{5}$. MEANS // have slope = $-\frac{5}{3}$ and \perp have slope = $\pm \frac{3}{5}$

23. $3y = -3x + 5$

24. $15y = -25x + 9$

23 NEITHER

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

26. $5y + 3x = 15$

24 NEITHER
~~(PARALLEL OK)~~*

23 $3y = -3x + 5$
 $y = -x + \frac{5}{3}$ \therefore NEITHER // or \perp

25 PERPENDICULAR (\perp)

24 $15y = -25x + 9$
 $y = \frac{-25x}{15} + \frac{9}{15} \therefore y = -\frac{5}{3}x + \frac{3}{5}$

26 NEITHER

\Rightarrow SAME LINE \Rightarrow NEITHER
(WILL ALSO ACCEPT //)*

25 $y = \frac{3}{5}x - 2$
PERPENDICULAR ;

TECHNICALLY,
PARALLEL LINES
NEVER TOUCH AT
ANY POINTS.

26 $5y + 3x = 15$
 $5y = -3x + 15$
 $y = -\frac{3}{5}x + 3 \therefore$ NEITHER SINCE $-\frac{3}{5} \neq$ NEG. RECIPROCAL OF $-\frac{5}{3}$