Chapter 6A Practice Test Sections 6.1, 6.2, 6.4, 6.5
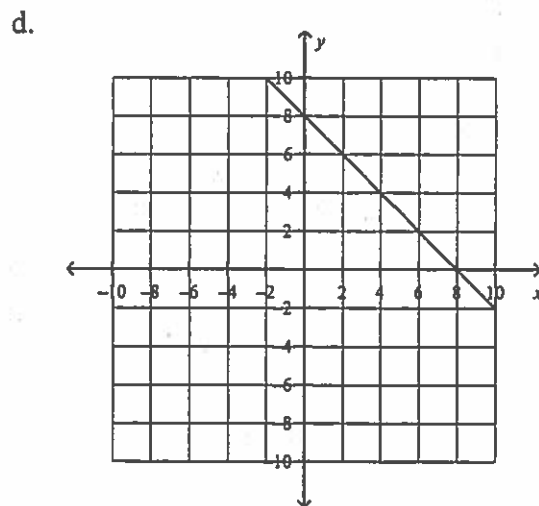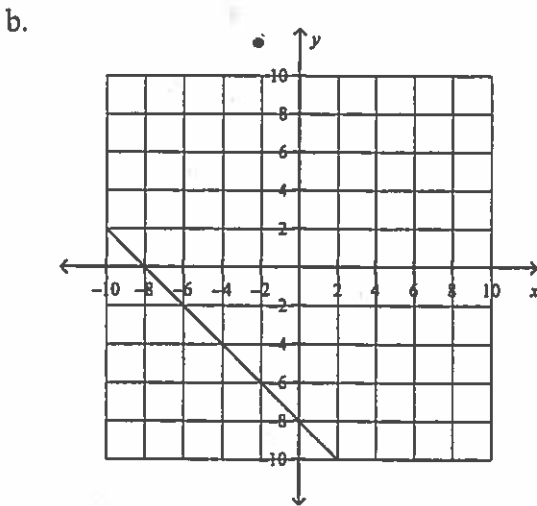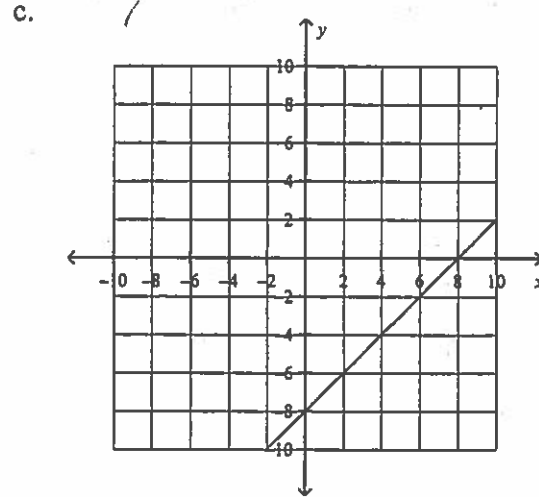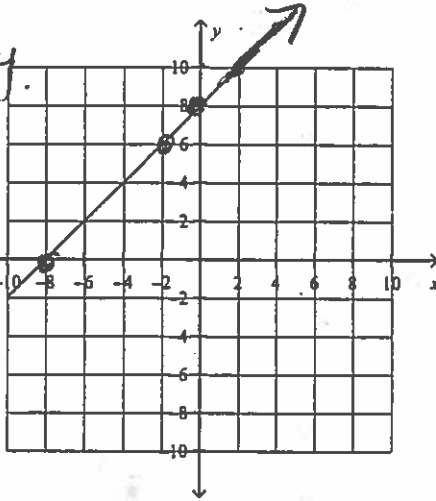
Multiple Choice
Identify the choice that best completes the statement or answers the question.

Match the equation with its graph.

___A___ 1. $8x - 8y = -64$

a.

$x - 8y = 64 \quad 8x - 8y = -64$

$-8y = -64 \quad 8x = -64$

$y = 8 \quad x = -8$

$(0, 8) \quad (-8, 0)$

b.

c.

d.

OR change to Slope-Int : $y = mx + b$

$8x - 8y = -64$
$-8x \qquad -8x$

$-8y = -8x - 64$
$\dfrac{-8y}{-8} = \dfrac{-8x}{-8} - \dfrac{64}{-8}$
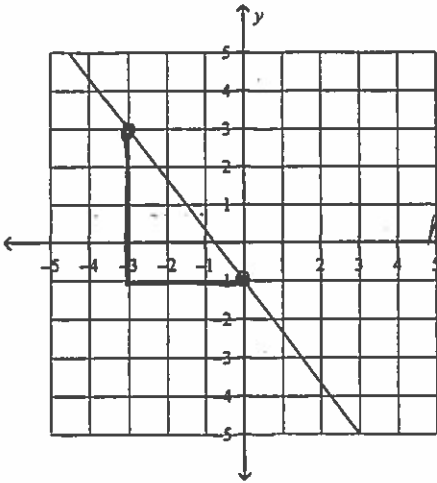
$_1 y = 7x + 8$

$m = \dfrac{+1}{+1}$

$b = 8$

Find the slope of the line.

2.

$m = \dfrac{rise}{run} = \boxed{\dfrac{-4}{3}}$

Find the slope and y-intercept of the line.

3. $8x + 4y = -76$
$-8x \quad -8x$

$\dfrac{4y}{4} = \dfrac{-8x}{4} + \dfrac{-76}{4}$

$\boxed{y = -2x - 19}$

Slope = -2

y-intercept = -19

Find the x- and y-intercept of the line.

4. $-2x + 6y = -24$

$-2x + 6y = -24$
$\dfrac{6y}{6} = \dfrac{-24}{6}$
$y = -4$
$(8, -4)$

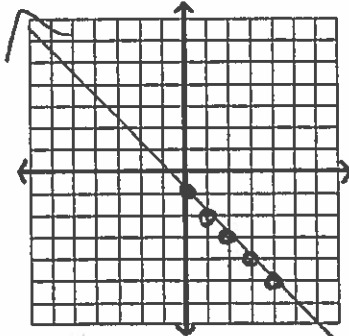$-2x + 6y = -24$
$\dfrac{-2x}{-2} = \dfrac{-24}{-2}$
$x = 12$
$(12, 0)$

$x = 12$
$y = -4$

Graph the equation.

5. $y + 3 = -(x - 2)$

Point: $(2, -3)$

$m = \dfrac{-1}{+1}$

OR Switch to
$y = mx + b$

$y + 3 = -1(x - 2)$
$y + 3 = -1x + 2$
$\quad -3 \quad -3$

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

$m = \dfrac{-1}{+1}$

$b = -1$

2

Write an equation in point-slope form for the line through the given point with the given slope.

6. $(2, -3); m = \frac{4}{5}$

$$x_1 \; y_1$$

$$y - y_1 = m_4(x - x_1)$$

$$y - (-3) = \frac{4}{5}(x - 2)$$

$$y + 3 = \frac{4}{5}(x - 2)$$

7. The rate of change (or slope) is constant in the table. Find the rate of change. Explain what it means for the situation.

Time (hours)	Distance (miles)
4	204
6	306
8	408
10	510

$+2$
$+2$
$+2$

$+102$
$+102$
$+102$

$$\frac{y's}{x's} = \frac{102}{2} = 51mph$$

speed

8. Find the slope of the line that passes through the pair of points. $(-2, 8), (8, -1)$ $\frac{-9}{10}$

Slope: $\frac{-9}{10}$

$$x_1 \; y_1 \; x_2 \; y_2$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-1 - 8}{8 - (-2)} = \frac{-9}{8 + 2} = \frac{-9}{10}$$

9. Write an equation of a line with the given slope and y-intercept. $m = -3, b = 6$

$$y = mx + b \qquad y = -3x + 6$$

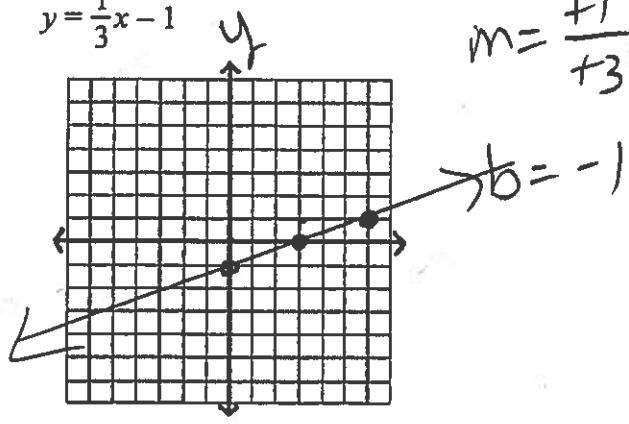10. Find the slope and y-intercept of the line.

$$y = \frac{4}{5}x - 2$$

slope: $\frac{4}{5}$

y-intercept: -2

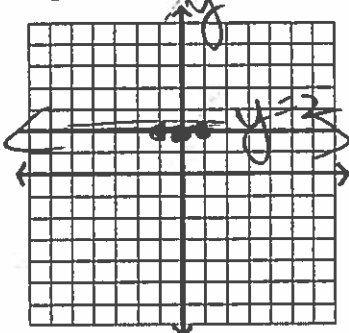11. Use the slope and y-intercept to graph the equation.

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

$$m = \frac{+1}{+3}$$

$$b = -1$$

12. A student finds the slope of the line between $(11, 19)$ and $(16, 14)$. She writes $\dfrac{19-14}{16-11}$. What mistake did she make?

$\overset{x_1 \ y_1}{} \quad \overset{x_2 \ y_2}{}$

$m = \dfrac{14-19}{16-11}$

Switched the order of the y's

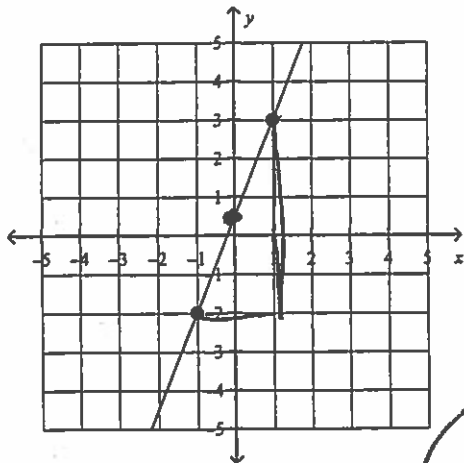13. Graph the equation. $y = 2$

or

x	y
-1	2
0	2
1	2

14. Find the slope of the line.
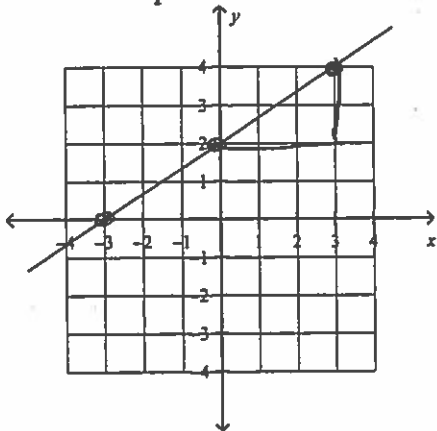
$m = \dfrac{rise}{run} = \dfrac{+2}{3}$

15. Write the slope-intercept form of the equation for the line.
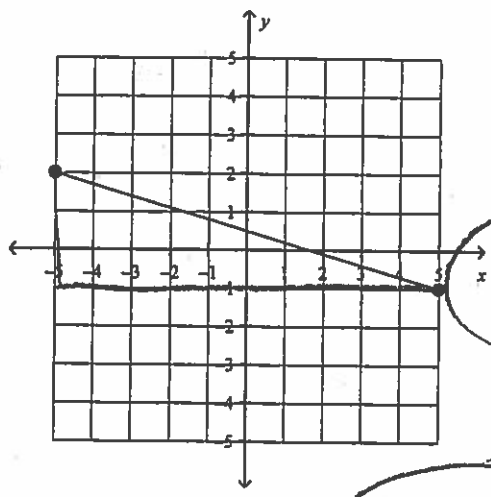

Slope: $m = \dfrac{+5}{2}$

$b = \dfrac{1}{2}$

$y = mx + b$

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

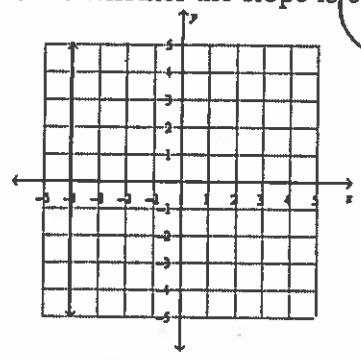**Write the slope-intercept form of the equation for the line.**

16.

$m = -\dfrac{3}{10}$

$b = \dfrac{1}{2}$

$y = -\dfrac{3}{10}x + \dfrac{1}{2}$

17. State whether the slope is 0 or undefined.

Vert Lines → Slope is undefined

Hor. Lines → Slope = 0

$\cancel{x} + 5y = 30$ $x + \cancel{5y} = 30$

$\dfrac{5y}{5} = \dfrac{30}{5}$ $x = 30$

$y = 6$ $(30, 0)$

$(0, 6)$

18. Find the x- and y-intercept of the line.
   $x + 5y = 30$
   x-int: $(30, 0)$ y-int: $(0, 6)$

19. Write an equation in point-slope form for the line through the given point with the given slope.
   $(-2, -9);\ m = \dfrac{2}{5}$

$y + 9 = \dfrac{2}{5}(x + 2)$

20. A line passes through $x_1\ y_1$ (5, 3) and $x_2\ y_2$ (4, 5).
   a) Write an equation for the line in **point-slope form.**

   Equation: $y - 3 = -2(x-5)$

   Using point
   (4, 5)

   $y - 5 = -2(x-4)$ or

① **Find slope:**

$m = \dfrac{y_2 - y_1}{x_2 - x_1} = \dfrac{5-3}{4-5} = \dfrac{2}{-1} = -2$

A

② Use point-slope. Using (5, 3) $x_1\ y_1$

$y - y_1 = m(x - x_1)$
$y - 3 = -2(x-5)$

   b) Change the equation from part a) into **slope-intercept form.**

   Equation: $y = -2x + 13$

   $y - 5 = -2(x-4)$
   $y - 8 = -2x + 8$
   $\ \ \ +5 \qquad\qquad +5$
   _____
   $\boxed{y = -2x + 13}$

$y - 3 = -2(x-5)$
$y - 3 = -2x + 10$
$\ \ +3 \qquad\qquad +3$
_____
$\boxed{y = -2x + 13}$

6