

Pg. 330 7, 9, 12, 13, 15, 17, 21,  
23, 25, 26, 27, 32, 35

7)  $(1, 3) y = 3x + 2$

PARALLEL LINE

slope org. equation = 3

new equation slope = 3

because it is the  
same if //

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

$$y - 3 = 3(x - 1)$$

$$y - 3 = 3x - 3$$

$$+3 \quad +3$$

$$\boxed{y = 3x}$$

9)  $(1, -3) y + 2 = 4(x - 1)$

slope = 4

// line slope = 4

$$y - (-3) = 4(x - 1)$$

$$y + 3 = 4x - 4$$

$$-3 \quad -3$$

$$\boxed{y = 4x - 7}$$

11)  $(0, 0) y = \frac{2}{3}x + 1$

slope =  $\frac{2}{3}$

// line slope =  $\frac{2}{3}$

$$y = mx + b$$

$$0 = \frac{2}{3}(0) + b$$

$$0 = b$$

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

12.  $(4, 2) x = -3$

$\boxed{x = 4}$  BECAUSE

IT HAS TO BE

A VERTICAL

LINE THAT GOES

through the

x value on the

point on the

line

13.  $y = x + 11$   $m = 1$

$$y = -x + 2$$
  $m = -1$

perpendicular

b/c the slopes

are opposite

reciprocals

15.  $y = -2x + 3$

$$2x + y = 7$$

$$-2x \quad = -2x$$

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

$$y = \boxed{-2x + 3}$$

parallel b/c

the slopes are

equal

$$17) \quad y = x - 7$$

$$x = 2$$

perpendicular because one line is horizontal and one line is vertical

25. y intercept for new path is 4

rise 2  
run 1

$$21) \quad (1, -2) \quad y = 5x + 4$$

slope = 5

$$\perp \text{ slope} = \frac{5}{1} = \boxed{-\frac{1}{5}}$$

$$y = mx + b$$

$$-2 = -\frac{1}{5}(1) + b$$

$$-2 = -\frac{1}{5} + b$$

$$-\frac{9}{5} = b$$

$$\boxed{y = -\frac{1}{5}x - \frac{9}{5}}$$

⊥ slope is  $-\frac{1}{2}$

$$y = mx + b$$

$$\boxed{y = -\frac{1}{2}x + 4}$$

26) y intercept is 4

main st.  
slope = 2

// slope = 2

$$23. \quad (5, 0) \quad y + 1 = 2(x - 3)$$

slope = 2

$$\perp \text{ slope} = \frac{2}{1} = -\frac{1}{2}$$

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

$$y - 0 = -\frac{1}{2}(x - 5)$$

$$\boxed{y = -\frac{1}{2}x + \frac{5}{2}}$$

$$\boxed{y = 2x + 4}$$

$$27a) \quad y = 3x + 3$$

$$b) \quad y = x = -1$$

$$c) \quad y - 5 = \frac{1}{2}(x - 2)$$

$$d) \quad y = 3$$

$$e) \quad y + 4 = -2(x + 6)$$

$$f) \quad 9x - 3y = 5$$

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27. a.  $y = 3x + 3$

$y = 3x + 3$

b.  $x = -1$

c.  $y - 5 = \frac{1}{2}(x - 2) \Rightarrow y = \frac{1}{2}x + 4$

d.  $y = 3$

e.  $y + 4 = -2(x + 6) \Rightarrow y = -2x - 16$

f.  $9x - 3y = 5$

$-3y = -9x + 5$

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

a & f are // b/c slope are the same

b & d are  $\perp$

c & e are  $\perp$  b/c slope are opposite reciprocals

32.  $y = \frac{1}{3}x + 1$  is //

$y = -3x + 4$

Slopes are not equal so not parallel. The slopes

are opposite reciprocal so  $\perp$

35.  $y = -100x + 600$

$y = -100x + 1000$

They are parallel because slopes are the same