

x is 4

$$\textcircled{8} (2, -2)$$

$$y = -x - 2$$

$$\text{slope} = -1$$

\* Same slope for parallel

$$y = mx + b$$

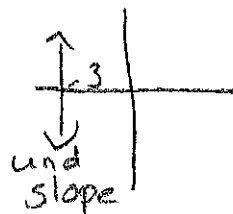
$$-2 = -1(2) + b$$

$$\begin{array}{r} -2 = -2 + b \\ +2 \quad +2 \\ \hline 0 = b \end{array}$$

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

$$\textcircled{12} (4, 2)$$

$$x = -3$$

vertical lines are parallel to each other, so  $x = 4$ 

$$\textcircled{14} \text{ Parallel, same slopes}$$

$$\textcircled{16} y - 4 = 3(x + 2) \Rightarrow y - 4 = 3x + 6$$

$$2x + 6y = 10$$

$$\frac{y}{6} = -\frac{2x}{6} + \frac{10}{6}$$

$$y = \left(-\frac{1}{3}\right)x + \frac{10}{6}$$

$$y = 3x + 10$$

slope

opposite reciprocal slopes  
perpendicular

$$\textcircled{10} (2, -1)$$

$$y = -\frac{3}{2}x + 6$$

\* same slope  $-\frac{3}{2}$ 

$$y = mx + b$$

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

$$-1 = -\frac{6}{2} + b$$

$$\begin{array}{r} -1 = -3 + b \\ +3 \quad +3 \\ \hline 2 = b \end{array}$$

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

$$\textcircled{18} y = 4x - 2$$

$$-x + 4y = 0$$

$$\frac{4y}{4} = \frac{x}{4} + \frac{0}{4}$$

$$y = \left(\frac{1}{4}\right)x + 0$$

- Slopes are only reciprocals, so neither.

$$(20) \quad y = \frac{1}{2}x - 1 \quad (-2, 3)$$

Change slope to  $-2$

$$y = mx + b$$

$$3 = -2(-2) + b$$

$$3 = \frac{4}{-4} + b$$

$$-1 = b$$

$$y = -2x - 1$$

$$(22) \quad x - 2y = 7 \quad (-3, 2)$$

$$\frac{-7}{-2} = \frac{-x}{-2} + \frac{7}{-2}$$

$$y = \frac{1}{2}x - \frac{7}{2}$$

change slope to  $-2$  for perpendicular

$$y = mx + b$$

$$2 = -2(-3) + b$$

$$2 = \frac{6}{-6} + b \quad b = -4$$

$$y = -2x - 4$$

$$(24) \quad x - 2y = 4 \quad (1, -6)$$

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

$$y = \frac{1}{2}x - 2$$

change slope to  $-2$

$$y = mx + b$$

$$-6 = -2(1) + b$$

$$-6 = -2 + b$$
$$+2 \quad +2$$

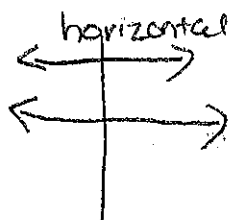
$$-4 = b$$

$$y = -2x - 4$$

(26) Slope of line on graph is 2  
park entrance  $(0, 4)$

$$y = 2x + 4$$

(28)



Sometimes,  
if  $y=0$ , then it is  
the  $x$ -axis + the  $x$ -axis can't be parallel to itself.

(30) NEVER!

$$y = 2x$$

$$y = 2x + 1$$

parallel