

6.3 BW answers

Write an equation of the line that passes through the given point and is parallel to the given line.

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

$$y = mx + b$$

$$-1 = -\frac{3}{5}(5) + b$$

$$-1 = -3 + b$$

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

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

2) $(1, 7), -6x + y = -1$

$$+6x \quad +6x \quad \text{so } m = 6$$

$$y = 6x + b$$

$$y = mx + b$$

$$7 = 6(1) + b$$

$$7 = 6 + b$$

$$\begin{array}{r} -6 \quad -6 \\ \hline 1 = b \end{array}$$

$$y = 6x + 1$$

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

$$5 = 2(-2) + b$$

$$5 = -4 + b$$

$$\begin{array}{r} +4 \quad +4 \\ \hline 9 = b \end{array}$$

$$y = 2x + 9$$

4) $(-10, 0), -y + 3x = 16$

$$\begin{array}{r} -3x \quad -3x \\ \hline -y = -3x + 16 \end{array}$$

$$\begin{array}{r} -y = -3x + 16 \\ \hline -1 \quad -1 \\ \hline y = 3x - 16 \end{array}$$

$$y = 3x - 16$$

$$m = +3$$

$$0 = 3(-10) + b$$

$$0 = -30 + b$$

$$\begin{array}{r} +30 \quad +30 \\ \hline 30 = b \end{array}$$

$$y = 3x + 30$$

5) Determine which lines, if any, are parallel or perpendicular.

Line a: $y = \frac{3}{5}x + 1$ $m = \frac{3}{5}$

Line b: $5y = 3x - 2$

Line c: $10x - 6y = -4$

⑥ $5y = 3x - 2$
 $\frac{5y}{5} = \frac{3x - 2}{5}$
 $y = \frac{3}{5}x - \frac{2}{5}$

$m = \frac{3}{5}$

③ $10x - 6y = -4$
 $-10x$
 $-6y = -10x - 4$
 $\frac{-6y}{-6} = \frac{-10x - 4}{-6}$
 $y = \frac{5}{3}x + \frac{2}{3}$

$m = \frac{5}{3}$

A AND B ARE PARALLEL

6) Determine which lines, if any, are parallel or perpendicular. (A)

Line a: $4x - 3y = 2$ $-3y = -4x + 2$

Line b: $3x + 4y = -1$ $\frac{-3y}{-3} = \frac{-4x + 2}{-3}$

Line c: $4y - 3x = 20$ $y = \frac{4}{3}x - \frac{20}{3}$

$m = \frac{4}{3}$

⑥ $4y = -3x - 1$
 $y = -\frac{3}{4}x - \frac{1}{4}$

$m = -\frac{3}{4}$

③ $\frac{4y}{4} = \frac{3x + 20}{4}$

$y = \frac{3}{4}x + 5$

A and B are PERPENDICULAR

$m = \frac{3}{4}$

Write an equation of the line that passes through the given point and is perpendicular to the given line.

7) $(-9, 2), y = 3x - 12$ $m = -\frac{1}{3}$

$2 = (-\frac{1}{3})(-9) + b$

$2 = 3 + b$
 -3 -3
 $-1 = b$

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

8) $(7, 10), y = .5x - 9$

$m = -2$

$10 = 7(-2) + b$

$10 = -14 + b$

$+14$ $+14$
 $24 = b$

$y = -2x + 24$

9) $(-4, -1), y = \frac{4}{3}x + 6$

$m = -\frac{3}{4}$

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

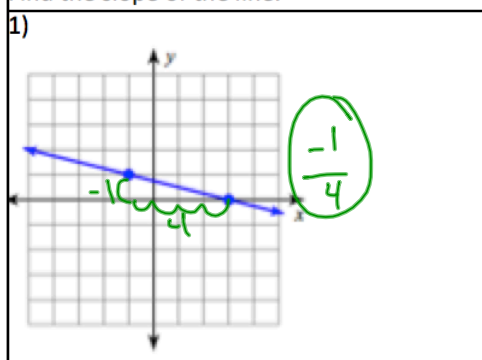
$-1 = 3 + b$

-3 -3
 $-4 = b$

$y = -\frac{3}{4}x - 4$

SKILLZ REVIEW

Find the slope of the line.



Simplify.

2) $10 - 3(2 - n)$
 $10 - 6 + 3n$
 $4 + 3n$

Solve.

3) $3 - 3c = 24$
 -3 -3
 $\frac{-3c}{-3} = \frac{21}{-3}$
 $c = -7$