Name : _____ Score : _____

Teacher : _____ Date : _____

Parallel Lines

Find the equation of a line passing through the given point and parallel to the given equation.
Write your answer in slope-intercept form.

1) (-3 , -2) and $y = \frac{3}{2}x + 3$ Answer: $y = \frac{3}{2}x + \frac{5}{2}$	5) (-4 , 0) and $-6x + 4y = -12$ Answer: $y = \frac{3}{2}x + 6$
2) (-4 , -3) and $4x + 9y = -9$ Answer: $y = -\frac{4}{9}x - \frac{43}{9}$	6) (1 , 5) and $y = -\frac{5}{2}x - 1$ Answer: $y = -\frac{5}{2}x + \frac{15}{2}$
3) (2 , 3) and $2x + 9y = 18$ Answer: $y = -\frac{2}{9}x + \frac{31}{9}$	7) (2 , 5) and $-6x + 5y = -10$ Answer: $y = \frac{6}{5}x + \frac{13}{5}$
4) (-4 , 0) and $y = 3x - 4$ Answer: $y = 3x + 12$	8) (5 , -4) and $y = \frac{5}{2}x - 4$ Answer: $y = \frac{5}{2}x - \frac{33}{2}$

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Perpendicular Lines

Find the equation of a line passing through the given point and perpendicular to the given equation. Write your answer in slope-intercept form.

1) (1 , -2) and $y = -3x - 15$ Answer: $y = \frac{1}{3}x - \frac{7}{3}$	5) (-4 , 0) and $3x + y = -12$ Answer: $y = \frac{1}{3}x + \frac{4}{3}$
2) (-3 , 5) and $-x + 3y = -6$ Answer: $y = -3x - 4$	6) (-3 , 4) and $y = -\frac{5}{2}x - 1$ Answer: $y = \frac{2}{5}x + \frac{26}{5}$
3) (-4 , 0) and $y = 2x - 2$ Answer: $y = -\frac{1}{2}x - 2$	7) (1 , 2) and $y = -x + 3$ Answer: $y = x + 1$
4) (5 , 5) and $4x + 3y = 3$ Answer: $y = \frac{3}{4}x + \frac{5}{4}$	8) (-3 , -4) and $-3x + 2y = 6$ Answer: $y = -\frac{2}{3}x - 6$

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Parallel, Perpendicular, and Intersecting Lines

Determine if the given pair of lines is parallel, perpendicular, or intersecting.

1) $y = -\frac{5}{3}x - 11$ and $5x + 3y = 24$

$-5x \quad -5x$

$\frac{3y}{3} = \frac{-5x}{3} + \frac{24}{3}$

$y = -\frac{5}{3}x + \frac{24}{3}$

same slope

Answer: Parallel

2) $y = \frac{1}{4}x - 6$ and $x + 4y = 32$

$-x \quad -x$

$\frac{4y}{4} = \frac{-x}{4} + \frac{32}{4}$

$y = -\frac{1}{4}x + \frac{32}{4}$

different slopes

Answer: intersecting

3) $y = \frac{8}{3}x + 19$ and $y = \frac{8}{3}x - 5$

same slope

Answer: Parallel

4) $y = -2x - 18$ and $y = -2x + 2$

same slope

Answer: Parallel

5) $y = -3x - 10$ and $y = \frac{1}{3}x - 4$

negative reciprical

Answer: Perpendicular

6) $y = -\frac{5}{4}x + 5$ and $-5x + 4y = -16$

$+5x \quad +5x$

$\frac{4y}{4} = \frac{5x}{4} - \frac{16}{4}$

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

different slopes

Answer: intersecting

7) $y = x + 14$ and $x + y = 8$

$-x \quad -x$

$y = -x + 8$

negative reciprical

Answer: ~~intersecting~~ Perpendicular

8) $y = -\frac{4}{3}x - 12$ and $y = -\frac{3}{4}x + 4$

different slopes

Answer: intersecting.