Name: _____

MATH MONKS

# Parallel and Perpendicular Lines Worksheet

1) Answer the below questions.

ⓐ Find the equation of a line that passes through the point (4,8) and is parallel to the line that has a slope of 3.

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ⓑ Find the equation of a line that passes through the point (-2,6) and is perpendicular to the line that has a slope of $\frac{1}{3}$.

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2) Write the slope-intercept form of the following lines.

| Line and Point | Equation of a Parallel Line | Equation of a Perpendicular Line |
|---|---|---|
| $x + 6y = -2$; (-7, -4) | | |
| $x = 16 - y$; (2, -5) | | |
| $x - \frac{y}{4} = 6$; (3,4) | | |
| $7x - 12 = 4y - 6$; (0,7) | | |
| $y = 2x - 1$; (-3,7) | | |
| $6x - y = 7$; (8,0) | | |
| $2x + 3y = 10$; (-3,2) | | |
| $7x - 8 = 5y$; (6,-7) | | |
| $2x + 3y = 4$; (-2,-2) | | |
| $y + 4x = 7$; (4,-5) | | |

# Parallel and Perpendicular Lines Worksheet

MATH MONKS

Answers

1) Answer the below questions.

ⓐ Find the equation of a line that passes through the point (4,8) and is parallel to the line that has a slope of 3.

$y = 3x - 4$

ⓑ Find the equation of a line that passes through the point (-2,6) and is perpendicular to the line that has a slope of $\frac{1}{3}$.

$y = -3x$

2) Write the slope-intercept form of the following lines.

| Line and Point | Equation of a Parallel Line | Equation of a Perpendicular Line |
|---|---|---|
| $x + 6y = -2$; (-7, -4) | $y = \frac{-x}{6} - \frac{31}{6}$ | $y = 6x + 38$ |
| $x = 16 - y$; (2, -5) | $y = x - 3$ | $y = x - 7$ |
| $x - \frac{y}{4} = 6$; (3,4) | $y = 4x - 8$ | $y = \frac{19}{4} - \frac{x}{4}$ |
| $7x - 12 = 4y - 6$; (0,7) | $y = \frac{7x}{4} + 7$ | $y = 7 - \frac{4x}{7}$ |
| $y = 2x - 1$; (-3,7) | $y = 2x + 13$ | $y = \frac{11}{2} - \frac{x}{2}$ |
| $6x - y = 7$; (8,0) | $y = 6x - 48$ | $y = \frac{4}{3} - \frac{x}{6}$ |
| $2x + 3y = 10$; (-3,2) | $y = \frac{-2x}{3}$ | $y = \frac{3x}{2} + \frac{13}{2}$ |
| $7x - 8 = 5y$; (6,-7) | $y = \frac{7x}{5} - \frac{77}{5}$ | $y = \frac{-5x}{7} - \frac{19}{7}$ |
| $2x + 3y = 4$; (-2,-2) | $y = -\frac{2x}{3} - \frac{10}{3}$ | $y = \frac{3x}{2} + 1$ |
| $y + 4x = 7$; (4,-5) | $y = 11 - 6x$ | $y = \frac{x}{4} - 6$ |