

Solve the following.

- 1) Given the slope $m = -6$, find the following:
- a) the slope of a parallel line $m = \underline{\hspace{2cm}}$
 - b) the slope of a perpendicular line $m = \underline{\hspace{2cm}}$
 - c) the slope of a line neither parallel or perpendicular $m = \underline{\hspace{2cm}}$
- 2) What is the slope of...
- a) line parallel to the line $y = \frac{3}{4}x - 6$ $m = \underline{\hspace{2cm}}$
 - b) line perpendicular to the line $y = 7 - 2x$ $m = \underline{\hspace{2cm}}$
 - c) line perpendicular to the line $6x - 2y = 12$ $m = \underline{\hspace{2cm}}$

Determine whether the following equations are parallel, perpendicular, or neither. Show both slopes.

3) $y = 2x - 5$ $y = 5x + 2$	4) $y = 3x + 4$ $y = 3x + 7$	5) $y = 3x + 1$ $y = -1/3x + 3$
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6) $y = 2/3x - 5$ $y = 3/2x + 8$	7) $y = -6$ $x = 4$	8) $y = -2x + 1$ $10x + 5y = 15$
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Write an equation in point-slope form of the line that passes through the given point that is parallel and perpendicular to the given line.

7) $(3, -3), y = x + 5$

Parallel: _____ Perpendicular: _____

8) $(-1, 3), y = 2x + 2$

Parallel: _____ Perpendicular: _____

9) $(5, -1), y = -\frac{3}{5}x - 3$

Parallel: _____

Perpendicular: _____

10) $(1, 7), -6x + y = -1$

Parallel: _____

Perpendicular: _____

11) $(-2, 5), 2y = 4x - 6$

Parallel: _____

Perpendicular: _____

12) $(-10, 0), -y + 3x = 16$

Parallel: _____

Perpendicular: _____

13)

HOCKEY A hockey puck leaves the blade of a hockey stick, bounces off a wall, and travels in a new direction, as shown.

- Write an equation that models the path of the puck from the blade of the hockey stick to the wall.
- Write an equation that models the path of the puck after it bounces off the wall.
- Does the path of the puck form a right angle?
Justify your answer.

