

Geometry

Unit 2 // Lesson 2

Name:

Date:

Period: 1 2 3 4 5 6

Standards: 16.0

Holt: 3.6 Lines in Coordinate Plane

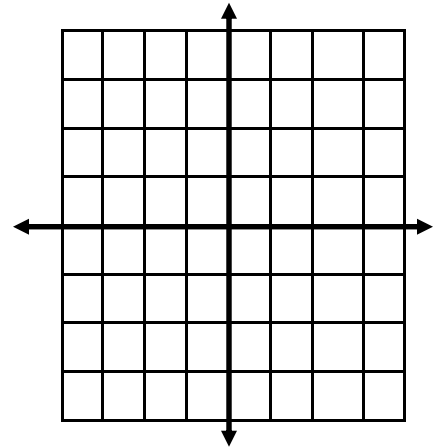
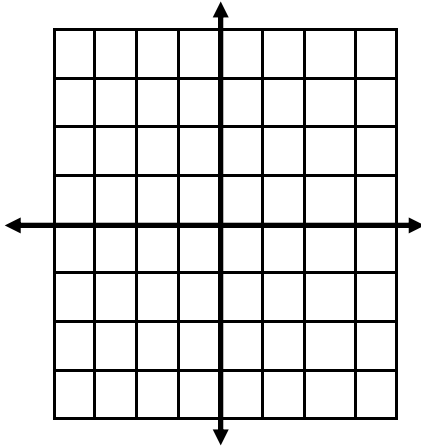
Objective

1.) Graph the line: $y = -3x + 2$

2.) Graph the line: $y = 2x + 1$

Graph the line: $y = \frac{1}{3}x - 1$

Graph the line: $y = -\frac{1}{2}x + 3$



Question 1: What do you notice about the lines in each problem above?

These lines are called _____ lines

Perpendicular lines have _____

Question 2: How are these perpendicular lines different from parallel lines?

Test Questions:

1. Which of the following lines **is** perpendicular to $y = 3x + 7$?

A.) $y = -\frac{1}{3}x + 4$ B.) $y = -3x + 7$ C.) $y = 3x$ D.) $y = 3.1x + 4$

2. Which of the following lines **are** parallel to $y = 3x + 7$?

A.) $y = \frac{1}{2}x + 4$ B.) $y = -\frac{1}{3}x + 1$ C.) $y = 3x$ D.) $y = -\frac{1}{3}x + 4$

Example 1) Find a line perpendicular to $y = 4x + 6$ and through the point $(8, 2)$

Equation:

Example 2) Find a line perpendicular to $y = 1/3x + 2$ and through the point $(6, 3)$

Equation:

Steps: 1.) Choose the slope m 2.) Plug in to: $y - y_1 = m(x - x_1)$ 3) Solve for y

1) Find a line perpendicular to $y = 2x + 6$ and through the point $(-12, 5)$

Equation:

2) Find a line perpendicular to $y = 1/2x + 2$ and through the point $(-5, 3)$

Equation:

3) Find a line perpendicular to $y = -1/4x + 6$ and through the point $(-2, 3)$

Equation:

4) Find a line perpendicular to $y = 5/2x + 2$ and through the point $(-10, 7)$

Equation: