Name: _____

# Algebra 2

## 0-04 Find Slope and Write Equations of Lines

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**Slope**

$$Slope = \frac{\quad\quad}{\quad\quad}$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Slope is the _____



$(x_2, y_2)$

$(x_1, y_1)$                   rise

run
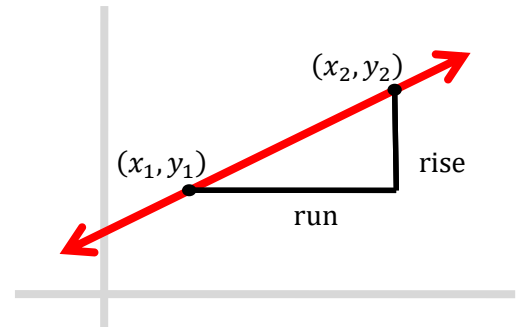
### Types of Slope

- Positive Slope: _____
- Zero Slope: _____
- Negative Slope: _____
- No Slope (Undefined): _____
  There's **No Slope** to stand on.
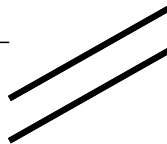
Find the slope of the line passing through the given points. Classify as *rises*, *falls*, *horizontal*, or *vertical*.

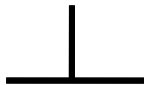$(7, 3), (-1, 7)$                                                    $(7, 1), (7, -1)$

### Parallel Lines

- In the same plane and do not _____
- Go the _____ direction
- Slopes are the _____

### Perpendicular Lines

- Intersect to form a _____ angle
- Slopes are _____
- OR Product of slopes is _____
- $\frac{2}{3}$ and $-\frac{3}{2}$

Tell whether the lines are *parallel*, *perpendicular*, or *neither*.

Line 1: through $(-2, 8)$ and $(2, -4)$

Line 2: through $(-5, 1)$ and $(-2, 2)$

**Writing Equations of Lines**

- Given _____ and _____
1. Use slope-intercept form _____
- Any other line
1. Find the _____ ($m$)
2. Find a _____ the line goes through ($x_1, y_1$)
3. Use point-slope form _____

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Write the equation of the line that passes through (−1, 6) and has a slope of 4.

Write the equation of the line that passes through (−1, 2) and (10, 0)

In a chemistry experiment, you record the temperature to be −5 °F one minute after you begin.  Six minutes after you begin the temperature is 20 °F.  Write a linear equation to model this.

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