

# Chapter 5 - Analyzing Linear Equations

## 5-1 Slope

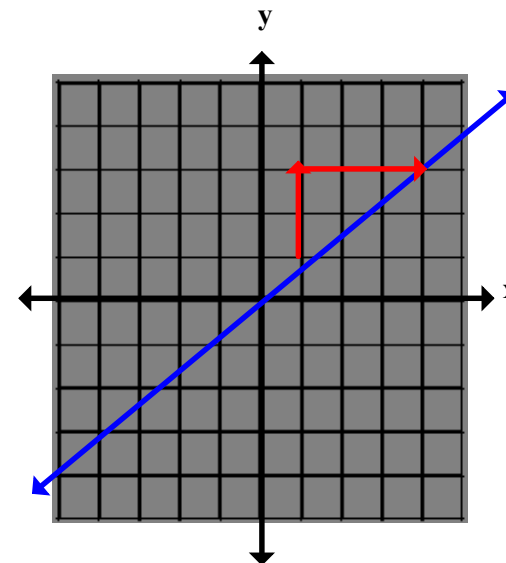
### What is slope?

Definition:

Slope = \_\_\_\_\_

Slope = \_\_\_\_\_

Slope = \_\_\_\_\_

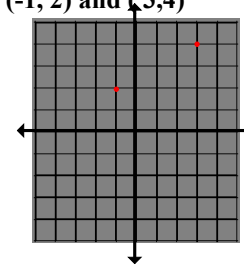


### Slope Formula

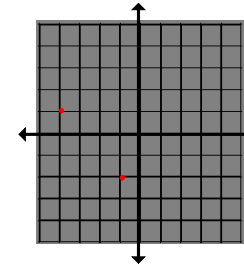


**Examples**

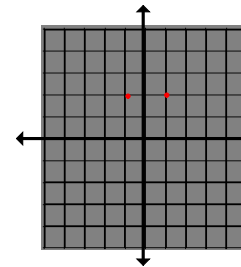
1. Find the slope of a line that passes through  $(-1, 2)$  and  $(3, 4)$



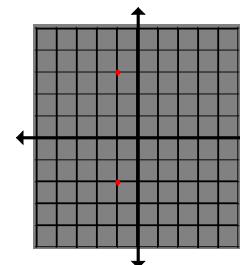
2. Find the slope of a line that passes through  $(-1, -2)$  and  $(-4, 1)$



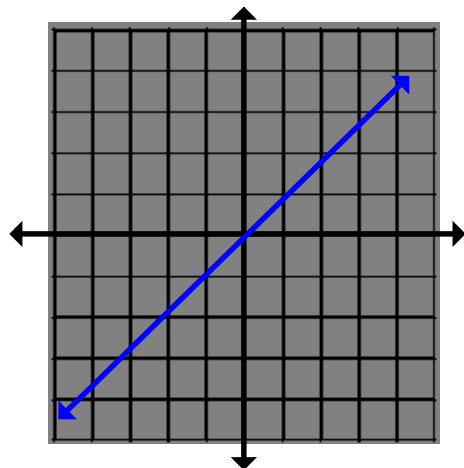
3. Find the slope of a line that passes through  $(1, 2)$  and  $(-1, 2)$



4. Find the slope of a line that passes through  $(1, -2)$  and  $(1, 3)$

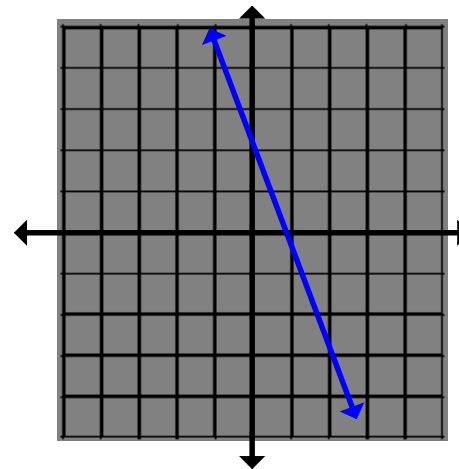


Positive Slope



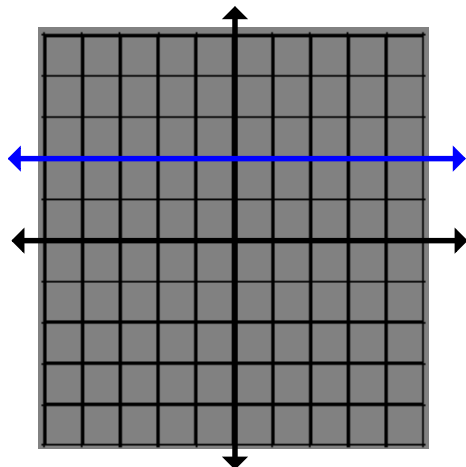
Rising from Left to Right

Negative Slope



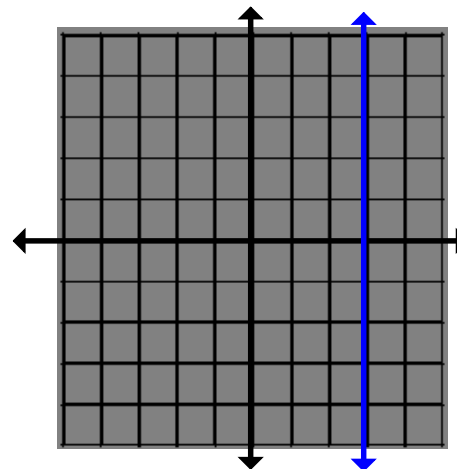
Falling from Left to Right

Zero Slope



Horizontal Line

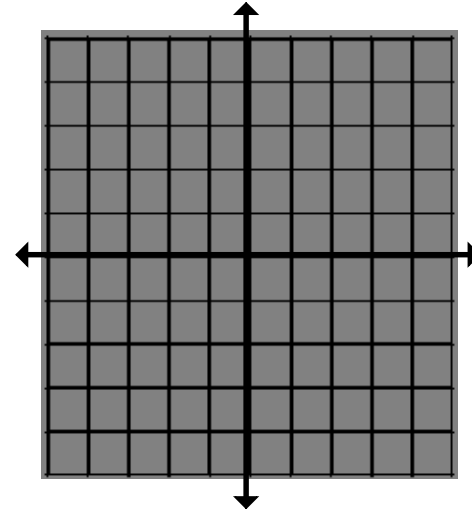
Undefined Slope



Vertical Line

**Example: Find Coordinates Given Slope**

Find the value of  $r$  so that the line through  $(r, 6)$  and  $(10, -3)$  has a slope of  $-\frac{2}{3}$



Find the value of  $r$  so that the line through  $(6, 3)$  and  $(r, 2)$  has a slope of  $\frac{1}{2}$

## Example: Find Rate of Change

Rate of change means **SLOPE**!!!!

**The graph shows the amount spent on food and drink at U.S. restaurants in recent years.**

**1. Find the rate of change for 1980-1990 and 1990-2000**

1980-1990

1990-2000

