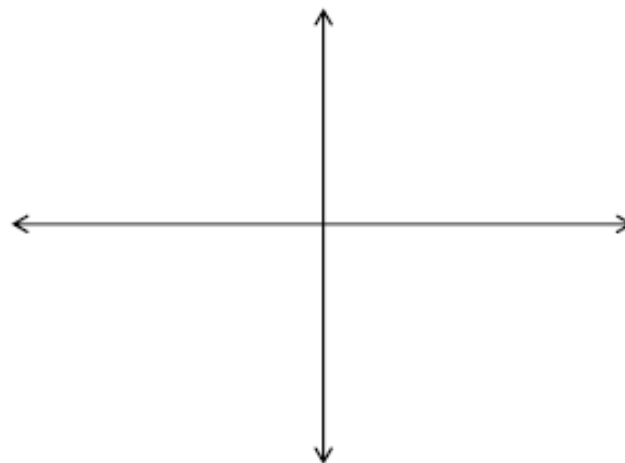


Week 8 Friday Course 3 Warm-up

Find the Slope
(4, -5) (3, 4)



Sketch the points (4, -5) and (3, 4)



Solve an Equation
Containing Fractions

$$4 + \frac{m}{8} = \frac{3}{4}$$

Write number in scientific notation
0.0000325

Simplify Expression

$$7^{-3} \cdot 7^2 \cdot 7^6$$

Solve an Equation
Containing Decimals
 $3m + 4.5m = 15$

Solve & Check
 $2x - 10 = 3x + 13$

Week 8 Friday Course 3 Warm-up

Find the Slope
(4, -5) (3, 4)

$$\frac{4 - (-5)}{3 - 4} = \frac{9}{-1} = -9$$

Given two points:

(x_1, y_1) (x_2, y_2)

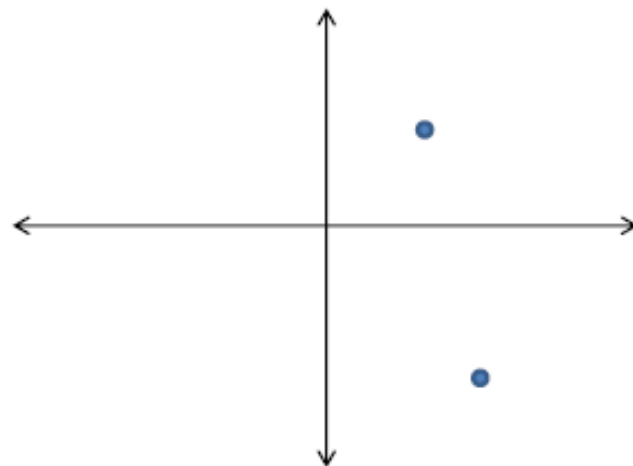
Slope Formula:

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

$$x_2 - x_1$$



Sketch the points (4, -5) and (3, 4)



Solve an Equation
Containing Fractions

$$4 + \frac{m}{8} = \frac{3}{4}$$

-26

Write number in scientific notation

0.0000325

3.25×10^{-5}

Simplify Expression

$$7^{-3} \cdot 7^2 \cdot 7^6$$

7^5

Solve an Equation
Containing Decimals

$$3m + 4.5m = 15$$

2

Solve & Check

$$2x - 10 = 3x + 13$$

$x = -23$

Lesson 4.1 Finding and Interpreting Slope (Day 4)

Objective


TSW find the slope of lines by

*interpreting table

*graphing

*using slope formula $= \frac{y_2 - y_1}{x_2 - x_1}$

*using formula $y=mx+b$



▶ The graph of a linear equation in two variables is a line, and you can write the equation of the line in slope-intercept form.

Common Core State Standards

8EE 5 Graph proportional relationships, interpreting the unit rate as the slope of a graph.

8 EE 6 ...derive the equation $y=mx$ for a line through the equation $y=mx+b$ for a line intercepting the vertical axis at b

- **Mathematical Practices** 2 Reason 4 Model Mathematics 5 Use tools 8 Express regularity in reasoning

Lesson 4.1 Types of Slope (Day 4)

Find the slope of the line passing through each pair of points.

7 $A(-10, 3), B(0, 3)$

8 $S(5, -2), T(2, -5)$

9 $P(0, -7), Q(-3, 5)$

10 $X(4, 4), Y(4, -2)$

Lesson 4.1 Types of Slope (Day 4)

Find the slope of the line passing through each pair of points.

7 $A(-10, 3), B(0, 3)$ 0

8 $S(5, -2), T(2, -5)$ 1

9 $P(0, -7), Q(-3, 5)$ -4

10 $X(4, 4), Y(4, -2)$ $Undefined$

Lesson 4.1 Types of Slope (Day 4)

Find the slope of each line.

- a) Find the slope of the line passing through the points $A(4, 8)$ and $B(1,$

Lesson 4.1 Types of Slope (Day 4)

Find the slope of each line.

- a) Find the slope of the line passing through the points A (4, 8) and B (1, 4)

Solution

Let A (4, 8) be (x_1, y_1) and B (1, 4) be (x_2, y_2) .

Method 1

$$\begin{aligned}\text{Slope} &= \frac{y_1 - y_2}{x_1 - x_2} \\ &= \frac{8 - 4}{4 - 1} \\ &= \frac{4}{3}\end{aligned}$$

Method 2

$$\begin{aligned}\text{Slope} &= \frac{y_2 - y_1}{x_2 - x_1} \\ &= \frac{4 - 8}{1 - 4} \\ &= \frac{-4}{-3} = \frac{4}{3}\end{aligned}$$

The slope is $\frac{4}{3}$.

You can find the slope of the line by calculating the rise and the run either from point A to point B or from point B to point A.



Lesson 4.1 Types of Slope (Day 4)

b) Find the slope of the line passing through the points $P(2, 5)$ and $Q(8, 2)$.

Lesson 4.1 Types of Slope (Day 4)

b) Find the slope of the line passing through the points $P(2, 5)$ and $Q(8, 2)$.

Solution

Let $P(2, 5)$ be (x_1, y_1) and $Q(8, 2)$ be (x_2, y_2) .

Method 1

$$\begin{aligned}\text{Slope} &= \frac{y_1 - y_2}{x_1 - x_2} \\ &= \frac{5 - 2}{2 - 8} \\ &= \frac{3}{-6} = -\frac{1}{2}\end{aligned}$$

Method 2

$$\begin{aligned}\text{Slope} &= \frac{y_2 - y_1}{x_2 - x_1} \\ &= \frac{2 - 5}{8 - 2} \\ &= \frac{-3}{6} = -\frac{1}{2}\end{aligned}$$

The slope is $-\frac{1}{2}$.

Lesson 4.1 Finding and Interpreting Slope (Day 4)

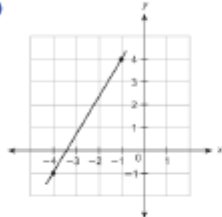
Independent Practice #1-5

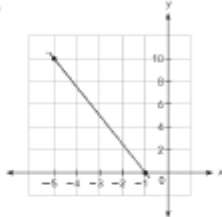
Partner Work

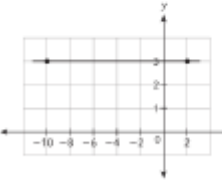
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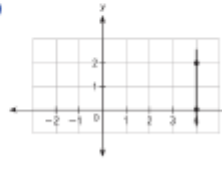
Practice 4.1 Day 2

Find the slope of each line using the points indicated.

1 

2 

3 

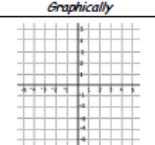
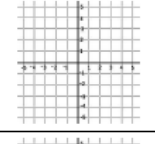
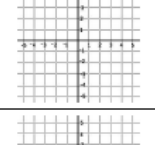
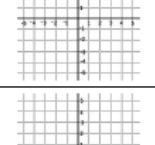
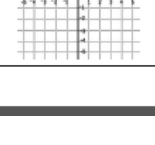
4 

Course #

Name: _____ Date: _____

Slope It Two Ways

Find the slope of the two points both graphically and by using the slope formula $\frac{y_2 - y_1}{x_2 - x_1}$

Graphically	TWO POINTS	Slope Formula
	A = (2, 4) B = (3, 2)	
	C = (-2, 0) D = (0, 4)	
	E = (-1, -3) F = (2, 3)	
	G = (5, -4) H = (-3, 0)	
	I = (-4, 2) J = (2, 2)	

Lesson Check — #7 Write Slope of line using two points (slope formula)