

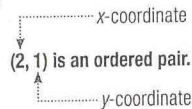
LESSON 20 Slope

Review It!

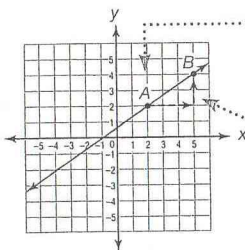
When you work with slope, remember these words:

slope a measure of the steepness of a line
x-coordinate the first number of an ordered pair

y-coordinate the second number of an ordered pair



Find the slope of the line shown below.



THINK You need the coordinates of both points.

REMEMBER Count the units.

Step 1 Choose any two points on the line, such as $A(2, 2)$ and $B(5, 4)$.

Step 2 Find the slope using this method.

$$\text{slope} = \frac{\text{difference in } y\text{-values}}{\text{difference in } x\text{-values}} = \frac{\text{rise}}{\text{run}}$$

The vertical distance from B to A is $4 - 2 = 2$.

The horizontal distance from B to A is $5 - 2 = 3$.

REMEMBER Subtract coordinates in the same order for rise and for run.

$$\frac{\text{rise}}{\text{run}} = \frac{\square}{\square}$$

REMEMBER The slope is the ratio of rise to run.

So, the slope of the line is _____.

Try It!

Find the slope of the line that passes through the points with the given coordinates.



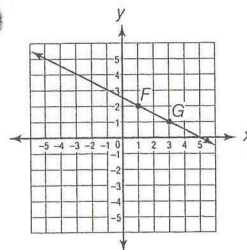
1. $(1, 7), (3, 10)$ 2. $(-3, 1), (7, 9)$ 3. $(-2, 4), (5, 1)$
- _____
4. $(5, 2), (6, -2)$ 5. $(6, 2), (3, -5)$ 6. $(-4, 1), (2, -3)$
- _____
7. $(8, 2), (-6, -4)$ 8. $(-2, 7), (1, -12)$ 9. $(10, 10), (-8, -8)$
- _____

1. Which values are on the top part of the fraction?
x, or y?

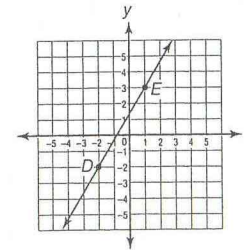
2. What is $7 - (-3)$?
10, or 4?

What is the slope of the lines graphed below?

10.



11.

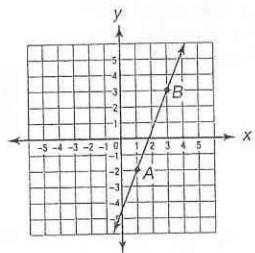


10. Find what?
rise/run, or run/rise?

On Your Own!

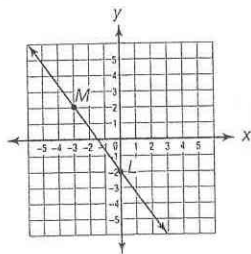
Circle the best answer for each question.

1. What is the slope of the line that passes through points A and B ?



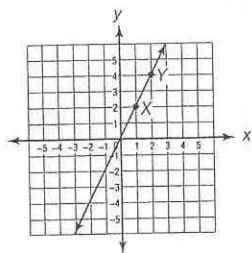
- A. $\frac{5}{2}$ C. $-\frac{2}{5}$
 B. $\frac{2}{5}$ D. $-\frac{5}{2}$

2. What is the slope of the line that passes through points L and M ?



- A. $-\frac{4}{3}$ C. $\frac{3}{4}$
 B. $-\frac{3}{4}$ D. $\frac{4}{3}$

3. What is the slope of the line that passes through points X and Y ?



- A. -3 C. $\frac{1}{2}$
 B. -2 D. 2

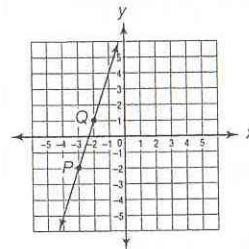
4. What is the slope of a line that passes through points with coordinates $(9, 1)$ and $(3, 12)$?

- A. 2 C. $-\frac{11}{6}$
 B. $\frac{6}{11}$ D. -2

5. What is the slope of a line that passes through points with coordinates $(-8, -3)$ and $(5, -6)$?

- A. $-\frac{13}{3}$ C. $\frac{3}{13}$
 B. $-\frac{3}{13}$ D. $\frac{13}{3}$

6. Use the graph below.



- Part A What is the slope of the line that passes through points P and Q ?

- Part B Describe the two ways to find the slope of the line on the graph.

Math Words

Fill in the blanks.

7. The slope is the _____ over the _____.

8. The fraction for slope has the difference of _____-coordinates on the top.