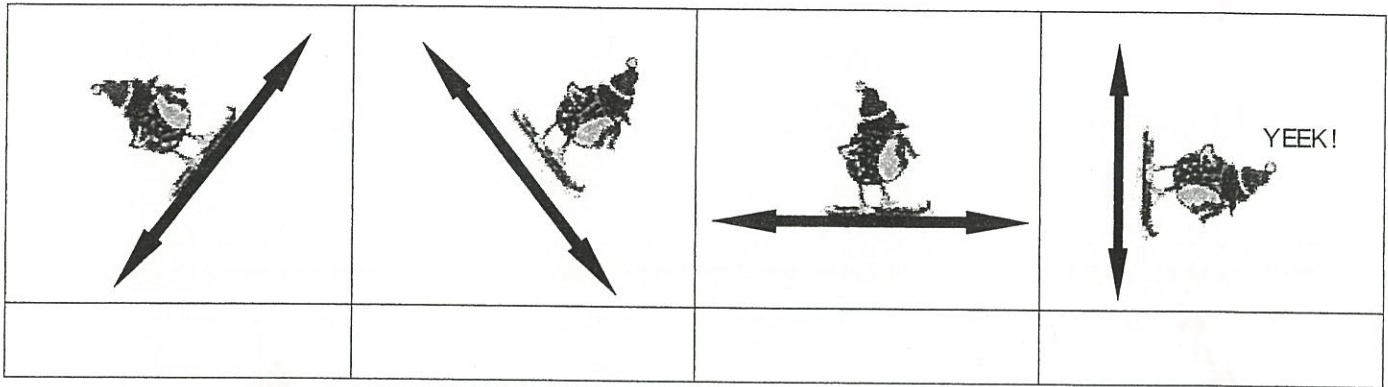


Key

## WHAT IS SLOPE?

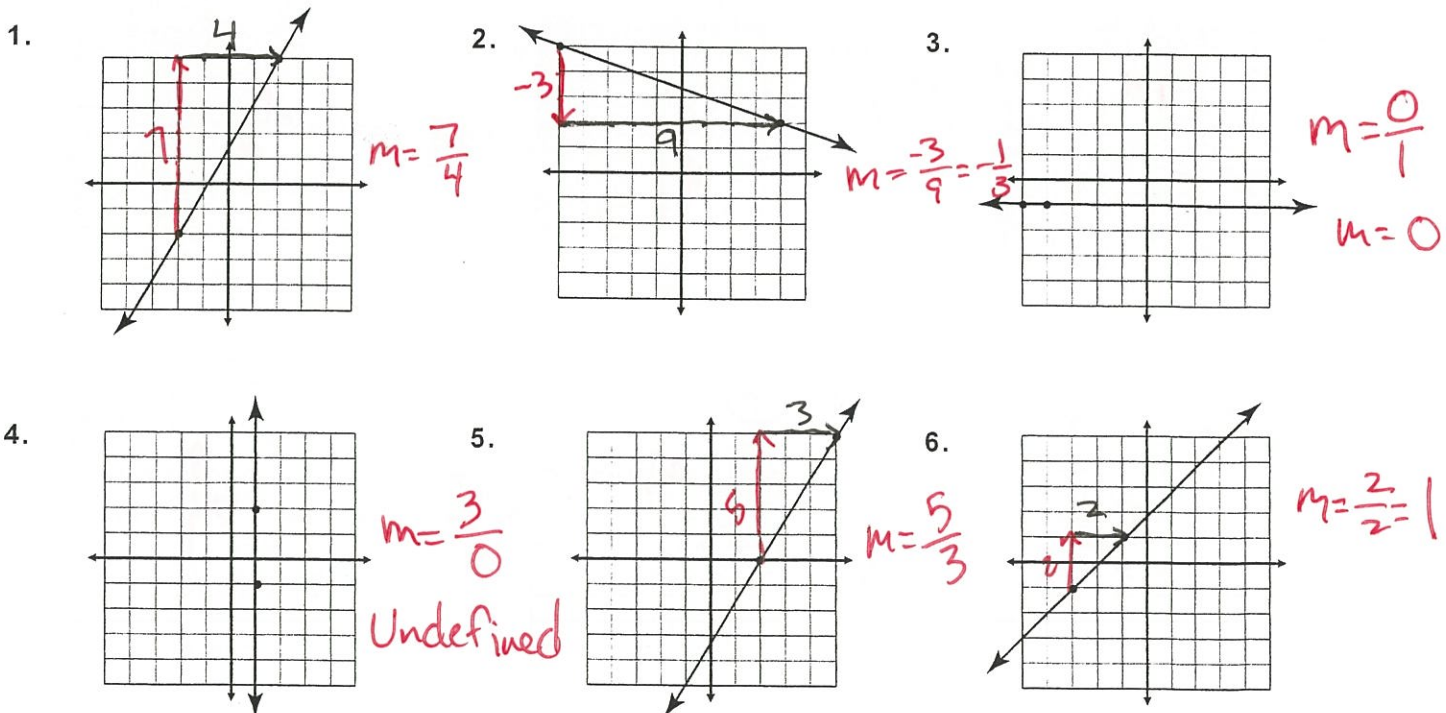
- The constant rate of change between points on a line.
- A ratio of the rise to the run of a line.
- Known as variable m.

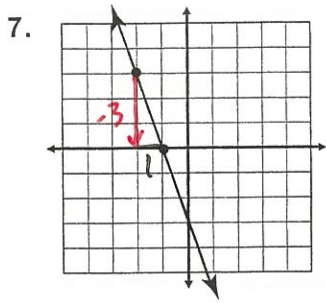
## TYPES OF SLOPE



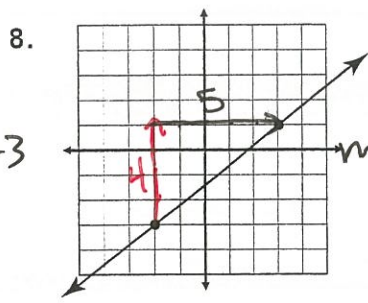
## FINDING SLOPE GIVEN A GRAPH

$$m = \frac{\text{rise (vertical change } \updownarrow \text{) red}}{\text{run (horizontal change } \leftrightarrow \text{) black}}$$

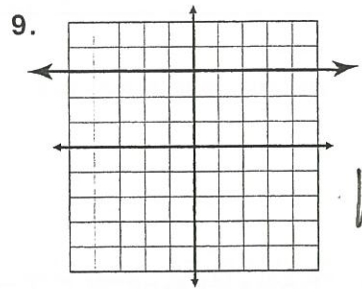




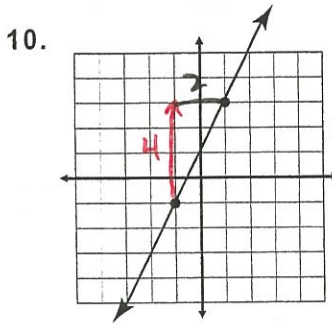
$$m = \frac{-3}{1} = -3$$



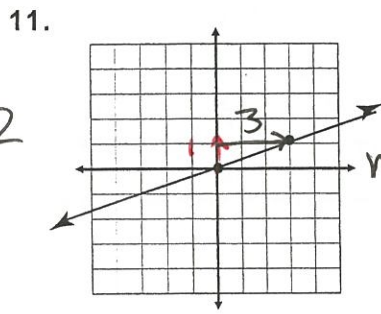
$$m = \frac{4}{5}$$



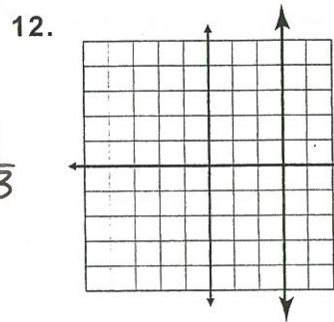
$$m = 0$$



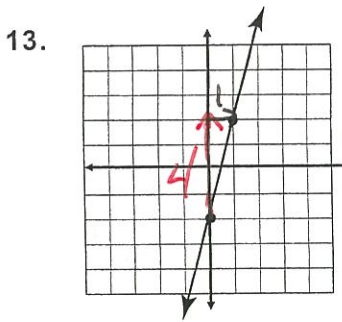
$$m = \frac{4}{2} = 2$$



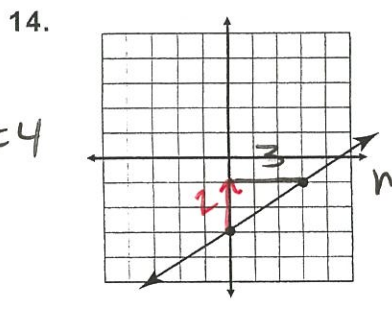
$$m = \frac{1}{3}$$



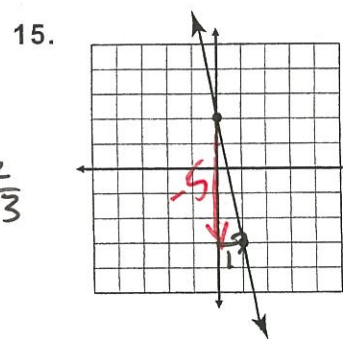
undefined



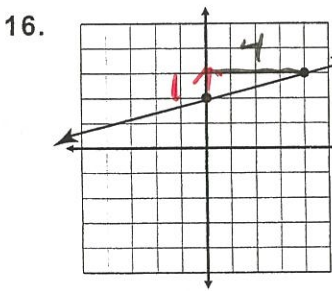
$$m = \frac{4}{1} = 4$$



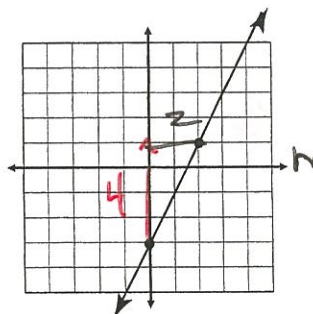
$$m = \frac{2}{3}$$



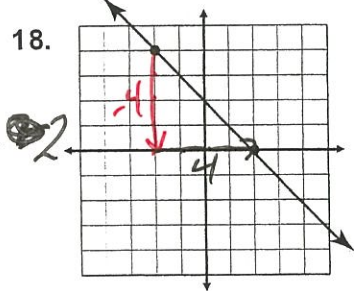
$$m = \frac{-5}{1} = -5$$



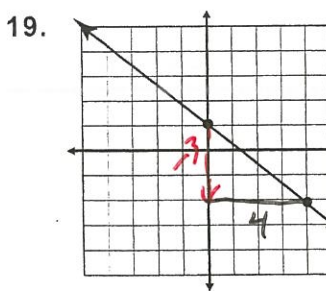
$$m = \frac{1}{4}$$



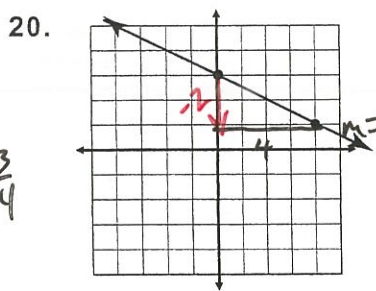
$$m = \frac{4}{2} = 2$$



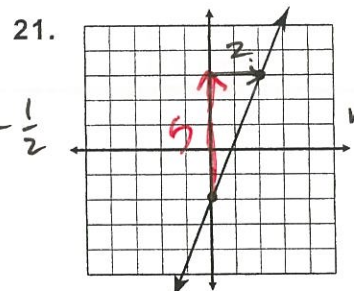
$$m = \frac{-4}{4} = -1$$



$$m = -\frac{3}{4}$$



$$m = \frac{-2}{4} = -\frac{1}{2}$$



$$m = \frac{5}{2}$$

Name:

Class:

Topic:

Date:

Main Ideas/Questions

Notes

Slope  
FormulaUsed to find the slope between two points  $(x_1, y_1)$  and  $(x_2, y_2)$ 

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

\*It is important to remember to **SIMPLIFY** your answer!

Examples:

Find the slope between each pair of points.

1. (1, 1) and (4, 3)

$$m = \frac{3-1}{4-1} = \frac{2}{3}$$

2. (-2, 4) and (10, -2)

$$m = \frac{-2-4}{10-(-2)} = \frac{-6}{12} = -\frac{1}{2}$$

3. (-4, 5) and (-8, -5)

$$m = \frac{-5-5}{-8-(-4)} = \frac{-10}{-4} = \frac{5}{2}$$

4. (10, 0) and (-2, 4)

$$m = \frac{4-0}{-2-10} = \frac{4}{-12} = -\frac{1}{3}$$

5. (5, 9) and (3, 9)

$$m = \frac{9-9}{3-5} = \frac{0}{-2} = 0$$

6. (-7, 8) and (-7, 5)

$$m = \frac{5-8}{-7-(-7)} = \frac{-3}{0} = \text{undefined}$$

7. (-1, 9) and (2, 3)

$$m = \frac{3-9}{2-(-1)} = \frac{-6}{3} = -2$$

8. (-4, 13) and (6, -2)

$$m = \frac{-2-13}{6-(-4)} = \frac{-15}{10} = -\frac{3}{2}$$

9. (5, 6) and (6, 5)

$$m = \frac{5-6}{6-5} = \frac{-1}{1} = -1$$

10. (9, -4) and (1, -4)

$$m = \frac{-4-(-4)}{1-9} = \frac{0}{-8} = 0$$

11. (5, -9) and (3, -2)

$$m = \frac{-2-(-9)}{3-5} = \frac{7}{-2}$$

12. (4, 6) and (4, 8)

$$m = \frac{8-6}{4-4} = \frac{2}{0} = \text{undefined}$$

22

