4.2

Slope of a Line and Parallel and Perpendicular Lines

Solving Proportions

Solve for the missing variable.

1) $\frac{1}{5} = \frac{x}{20}$

2) $\frac{8}{6} = \frac{x}{9}$

Solving Proportions

Solve for the missing variable.

3) $\frac{6r}{10} = \frac{12}{5}$

4) $\frac{3+c}{12} = \frac{5}{6}$

Solving Proportions

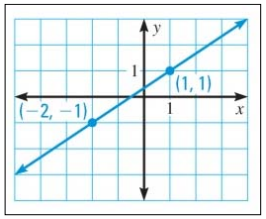
Solve for the missing variable.

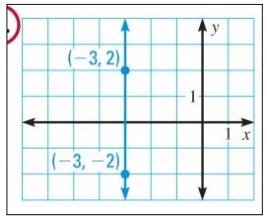
5) $\frac{12}{8} = \frac{k-1}{20}$

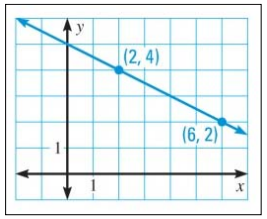
Review

$$slope = \frac{rise}{run}$$

FINDING SLOPE Tell whether the slope of the line is *positive*, *negative*, *zero*, or *undefined*. Then find the slope if it exists.

1) 

2) 

3) 

Review

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

4) (1, 3) and (3, −2)

5) (−3, 4) and (4, 1)

6) (1, −3) and (7, 3)

Practice

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

The points in the table lie on a line. Find the slope of the line.

7)

x	−3	2	7	12
y	0	2	4	6

Practice

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

The points in the table lie on a line. Find the slope of the line.

8)

x	−8	−2	4	10
y	8	1	−6	−13

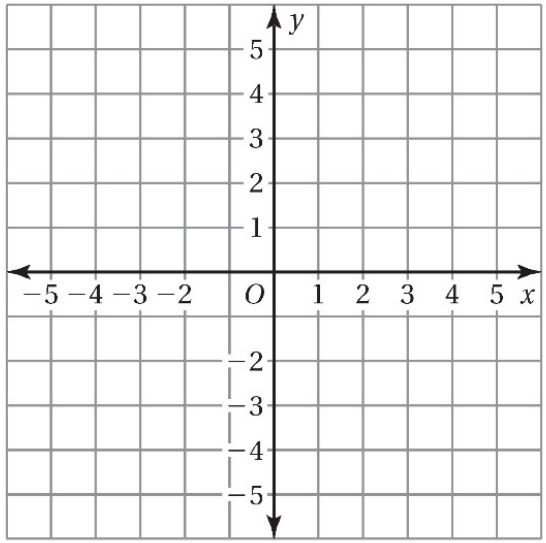
Review

Graph the following lines.

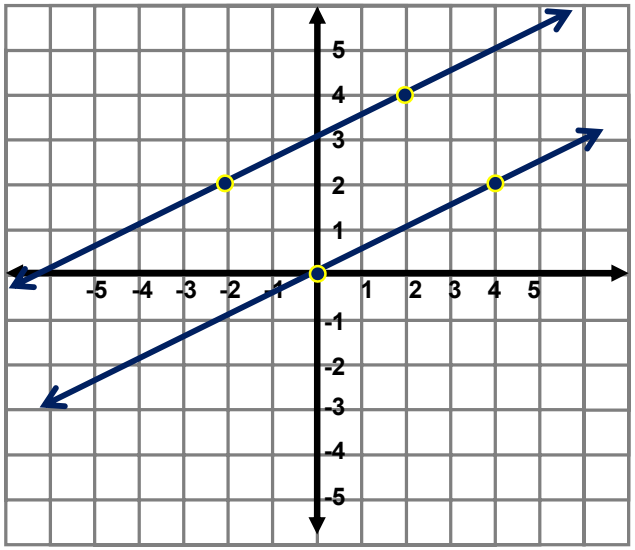
9) $y = 3$

10) $x = -2$

11) $y = -1$



SLOPE OF PARALLEL LINES



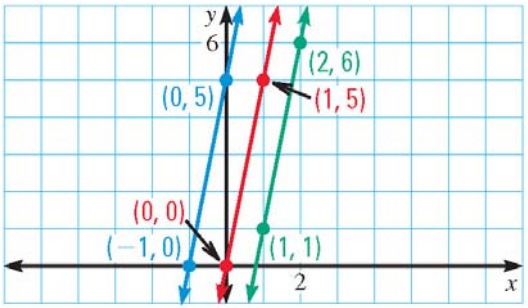
$$slope = \frac{rise}{run}$$

Practice

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

Determine which lines are parallel.

13)

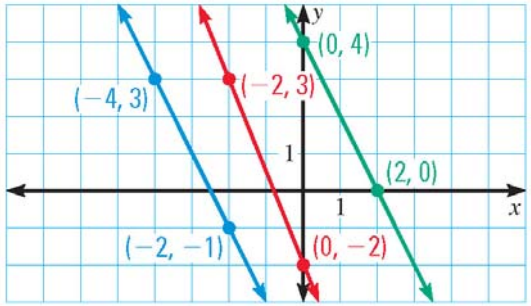


Practice

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

Determine which lines are parallel.

12)



Review

1) Cross-multiply
2) Solve like a multi-step equation

14) $\frac{2}{5} = \frac{4}{x+1}$

Review

1) Cross-multiply
2) Solve like a multi-step equation

15) $\frac{21}{y-8} = 3$

FINDING MISSING NUMBERS

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

Find the value of k so that the line passes on the following point with the given slope.

16) $(2,3)$ ***and*** $(k,9)$; **slope** $= \frac{3}{2}$

FINDING MISSING NUMBERS

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

Find the value of k so that the line passes on the following point with the given slope.

17) $(8,1)$ ***and*** $(k,7)$; **slope** $= -\frac{1}{2}$