4.2

Slope of a Line and Parallel and Perpendicular Lines

Solving Proportions

Solve for the missing variable.

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

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

Solving Proportions

Solve for the missing variable.

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

Solving Proportions

Solve for the missing variable.

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

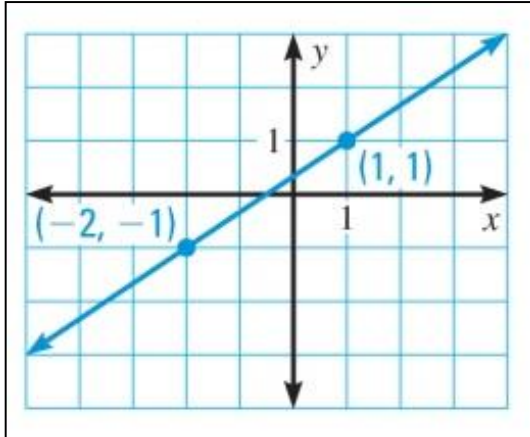# Solving Proportions

Solve for the missing variable.
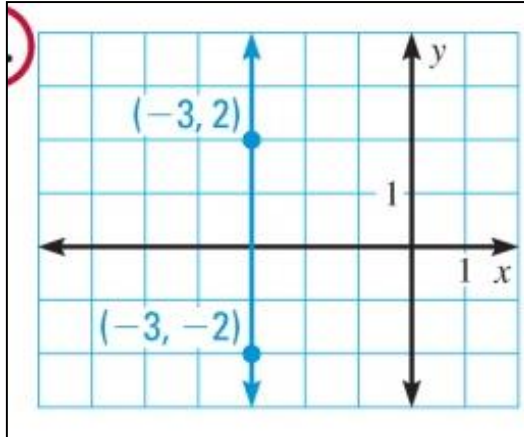
5) $\dfrac{12}{8} = \dfrac{k-1}{20}$

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.
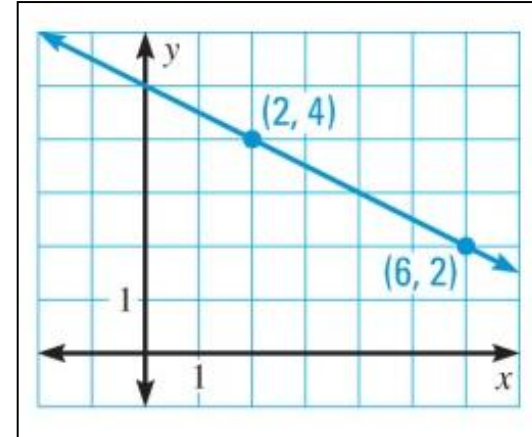
1)

Points: $(-2, -1)$, $(1, 1)$

2)

Points: $(-3, 2)$, $(-3, -2)$

3)

Points: $(2, 4)$, $(6, 2)$

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

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

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

7)

x	-3	2	7	12
y	0	2	4	6

Practice

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

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

8)

x	−8	−2	4	10
y	8	1	−6	−13

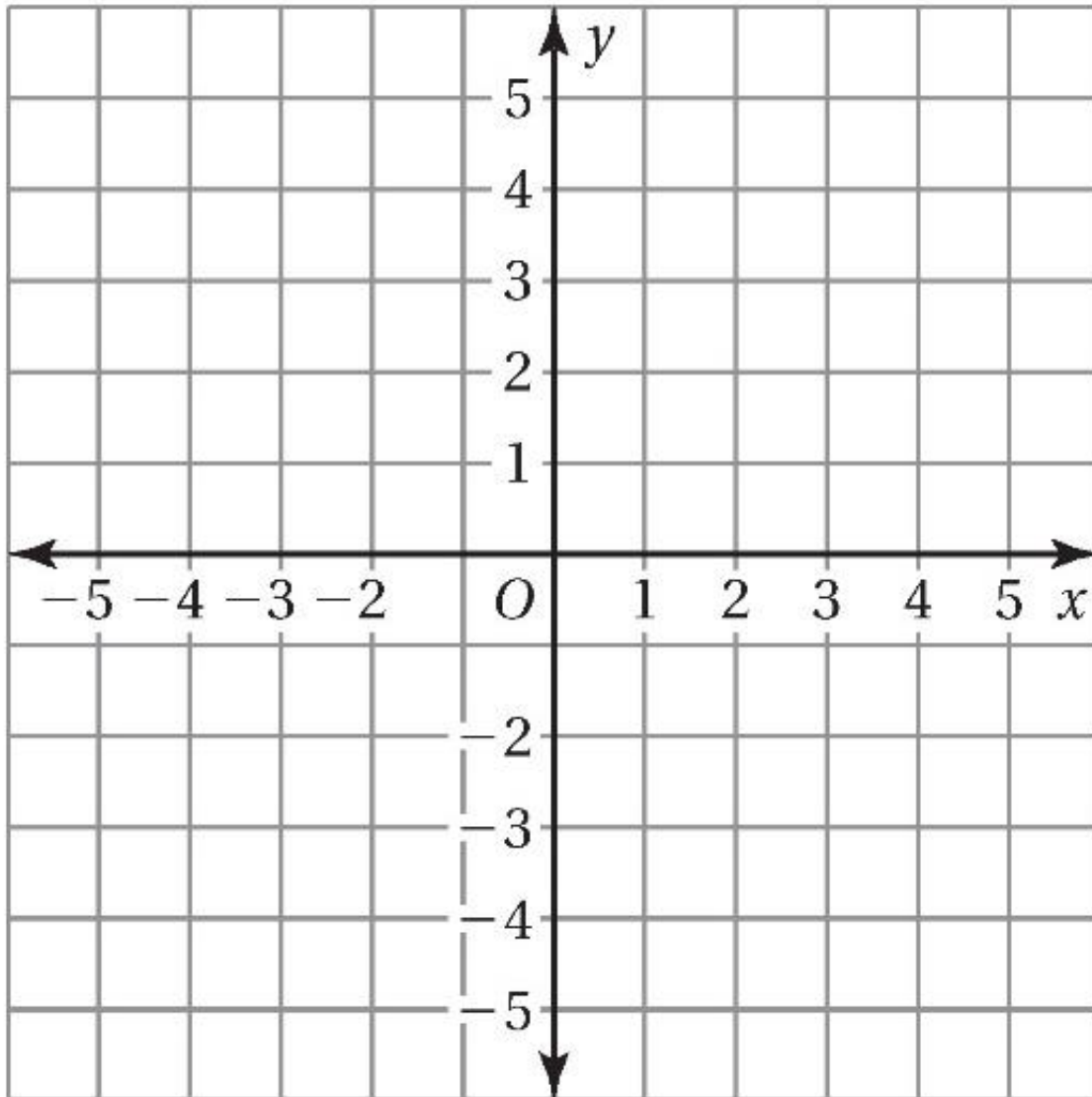**Graph the following lines.**

9) $y = 3$

10) $x = -2$

11) $y = -1$

SLOPE OF PARALLEL LINES
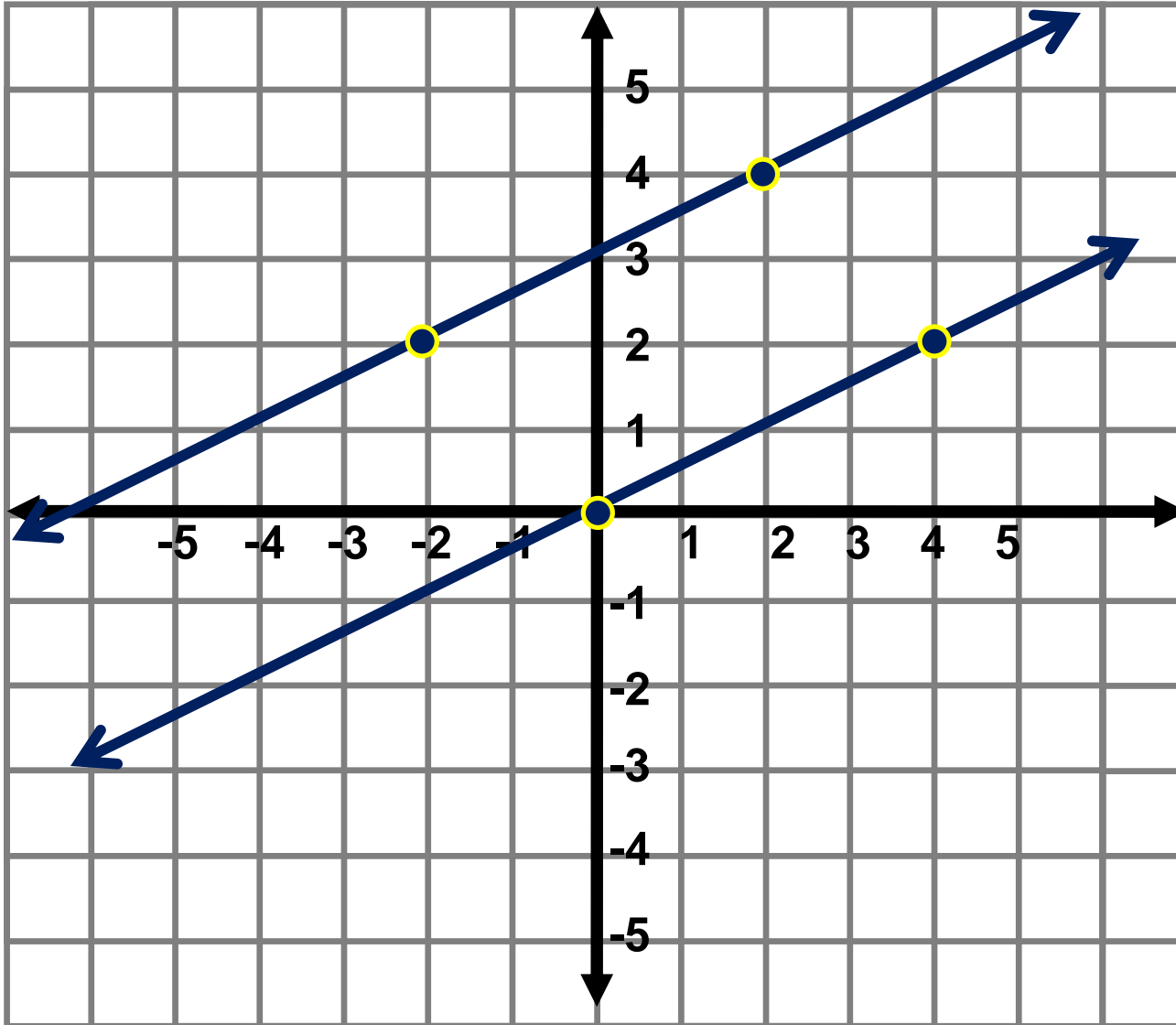
$$slope = \frac{rise}{run}$$

Practice
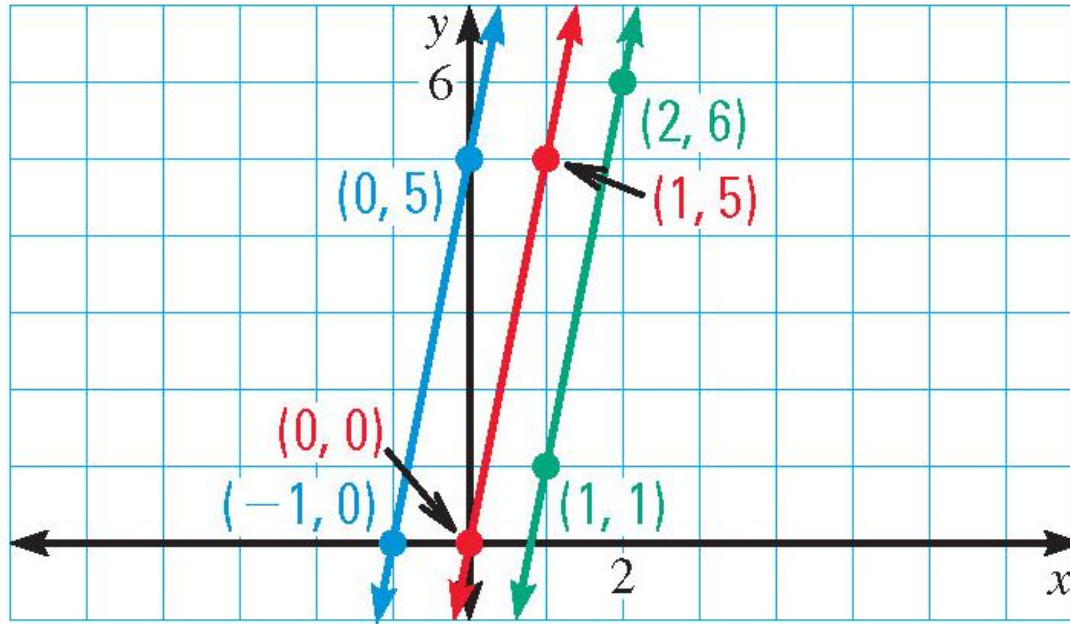
Determine which lines are parallel.

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

13) .

Practice

Determine which lines are parallel.

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

12)
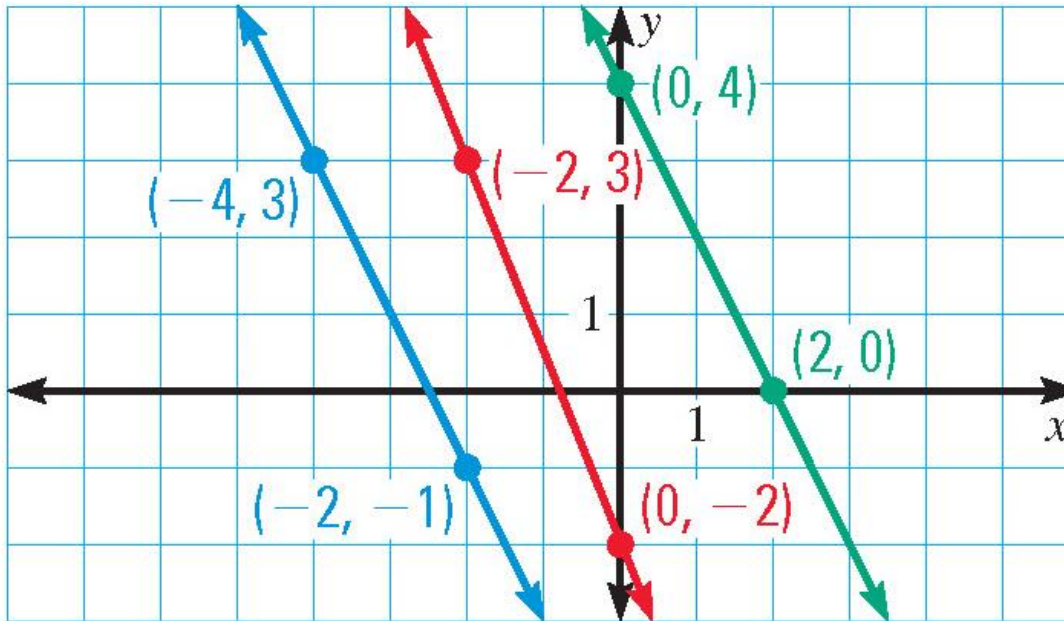
1) Cross-multiply
2) Solve like a multi-step equation

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

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

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

FINDING MISSING NUMBERS

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** $= \dfrac{3}{2}$

FINDING MISSING NUMBERS

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** $= -\dfrac{1}{2}$