

Slope Formula

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

1) $(-19, -17), (-2, -7)$
 $x_1 \ y_1 \ x_2 \ y_2$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-7 - (-17)}{-2 - (-19)} = \frac{-7 + 17}{-2 + 19} = \frac{10}{17}$$

2) $(-6, -1), (12, 13)$

3) $(-19, 19), (-6, -13)$
 $x_1 \ y_1 \ x_2 \ y_2$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-13 - 19}{-6 - (-19)} = \frac{-32}{-6 + 19} = \frac{-32}{13}$$

4) $(-5, -18), (9, 10)$

5) $(-17, -15), (-5, -11)$
 $x_1 \ y_1 \ x_2 \ y_2$

6) $(-18, 2), (-1, -7)$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-11 - (-15)}{-5 - (-17)} = \frac{-11 + 15}{-5 + 17} = \frac{4}{12} = \frac{1}{3}$$

7) $(-2, -6), (18, -13)$
 $x_1 \ y_1 \ x_2 \ y_2$

8) $(11, 15), (-14, 13)$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-13 - (-6)}{18 - (-2)} = \frac{-13 + 6}{18 + 2} = \frac{-7}{20}$$

9) $(-5, 6), (5, 7)$
 $x_1 \ y_1 \ x_2 \ y_2$

10) $(10, -10), (-10, 7)$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{7 - 6}{5 - (-5)} = \frac{1}{5 + 5} = \frac{1}{10}$$

11) $(-8, -18), (11, 11)$
 $x_1 \ y_1 \ x_2 \ y_2$

12) $(-20, -6), (-2, -10)$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{11 - (-18)}{11 - (-8)} = \frac{11 + 18}{11 + 8} = \frac{29}{19}$$

13) $(8, -10), (-16, 17)$
 $x_1 \ y_1 \ x_2 \ y_2$

14) $(-7, 6), (7, 6)$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{17 - (-10)}{-16 - 8} = \frac{17 + 10}{-24} = \frac{27}{-24} = -\frac{9}{8}$$

15) $(-3, -14), (17, -7)$
 $x_1 \ y_1 \ x_2 \ y_2$

16) $(-20, 11), (-7, -6)$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-7 - (-14)}{17 - (-3)} = \frac{-7 + 14}{17 + 3} = \frac{7}{20}$$

17) $(9, -2), (-15, 11)$
 $x_1 \ y_1 \ x_2 \ y_2$

18) $(9, 15), (-11, 15)$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{11 - (-2)}{-15 - 9} = \frac{11 + 2}{-24} = \frac{13}{-24}$$

19) $(5, 3), (-20, -4)$
 $x_1 \ y_1 \ x_2 \ y_2$

20) $(4, 19), (16, -9)$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-4 - 3}{-20 - 5} = \frac{-7}{-25} = \frac{7}{25}$$