Finding Slope (Given Two Points)

Unit 3: Introduction to Functions

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

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

1. $(-7, -19)$ & $(6, 11)$

$x_1\ y_1\ \ x_2\ y_2$

$m = \frac{11-(-19)}{6-(-7)} = \frac{11+19}{6+7} = \boxed{\frac{30}{13}}$

2. $(2, -10)$ & $(4, 8)$

$x_1\ y_1\ \ x_2\ y_2$

$m = \frac{8-(-10)}{4-(2)} = \frac{8+10}{4-2} = \frac{18}{2} = \boxed{9}$

3. $(-19, -17)$ & $(9, 9)$

$x_1\ y_1\ \ x_2\ y_2$

$m = \frac{9-(-17)}{9-(-19)} = \frac{9+17}{9+19} = \frac{26}{28} = \boxed{\frac{13}{14}}$

4. $(-16, -7)$ & $(-20, 12)$

$x_1\ y_1\ \ x_2\ y_2$

$m = \frac{12-(-7)}{-20-(-16)} = \frac{12+7}{-20+16} = \boxed{\frac{19}{-4}}$

5. $(-4, 8)$ & $(-2, 18)$

$x_1\ y_1\ \ x_2\ y_2$

$m = \frac{18-(8)}{-2-(-4)} = \frac{18-8}{-2+4} = \frac{10}{2} = \boxed{5}$

6. $(-8, 6)$ & $(15, 1)$

$x_1\ y_1\ \ x_2\ y_2$

$m = \frac{1-(6)}{15-(-8)} = \frac{1-6}{15+8} = \boxed{\frac{-5}{23}}$

7. $(16, -7)$ & $(18, -9)$

$x_1\ y_1\ \ x_2\ y_2$

$m = \frac{-9-(-7)}{18-(16)} = \frac{-9+7}{18-16} = \frac{-2}{2} = \boxed{-1}$

8. $(-20, -7)$ & $(-8, 13)$

$x_1\ y_1\ \ x_2\ y_2$

$m = \frac{13-(-7)}{-8-(-20)} = \frac{13+7}{-8+20} = \frac{20}{12} = \frac{10}{6} = \boxed{\frac{5}{3}}$

9. $(10, 13)$ & $(-3, 15)$

$x_1\ y_1\ \ x_2\ y_2$

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

10. $(16, -20)$ & $(-6, -4)$

$x_1\ y_1\ \ x_2\ y_2$

$m = \frac{-4-(-20)}{-6-(16)} = \frac{-4+20}{-6-16} = \frac{16}{-22} = \boxed{\frac{8}{-11}}$

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

11. $(-6, 0)$ & $(19, -19)$

$x_1\ y_1 \quad x_2\ y_2$

$m = \frac{-19-(0)}{19-(-6)} = \frac{-19-0}{19+6} = \boxed{\frac{-19}{25}}$

12. $(5, 16)$ & $(5, 20)$

$x_1\ y_1 \quad x_2\ y_2$

$m = \frac{20-(16)}{5-(5)} = \frac{20-16}{5-5} = \frac{4}{0}$

undefined

13. $(-17, 5)$ & $(-3, -4)$

$x_1\ y_1 \quad x_2\ y_2$

$m = \frac{-4-(5)}{-3-(-17)} = \frac{-4-5}{-3+17} = \boxed{\frac{-9}{14}}$

14. $(1, -2)$ & $(6, -16)$

$x_1\ y_1 \quad x_2\ y_2$

$m = \frac{-16-(-2)}{6-(1)} = \frac{-16+2}{6-1} = \boxed{\frac{-14}{5}}$

15. $(-3, 12)$ & $(7, 1)$

$x_1\ y_1 \quad x_2\ y_2$

$m = \frac{1-(12)}{7-(-3)} = \frac{1-12}{7+3} = \boxed{\frac{-11}{10}}$

16. $(-1, -19)$ & $(-4, 19)$

$x_1\ y_1 \quad x_2\ y_2$

$m = \frac{19-(-19)}{-4-(-1)} = \frac{19+19}{-4+1} = \boxed{\frac{38}{-3}}$

17. $(-11, 0)$ & $(-9, 9)$

$x_1\ y_1 \quad x_2\ y_2$

$m = \frac{9-(0)}{-9-(-11)} = \frac{9-0}{-9+11} = \boxed{\frac{9}{2}}$

18. $(2, 15)$ & $(6, 13)$

$x_1\ y_1 \quad x_2\ y_2$

$m = \frac{13-(15)}{6-(2)} = \frac{13-15}{6-2} = \frac{-2}{4} = \boxed{\frac{-1}{2}}$

19. $(-12, -19)$ & $(-20, 12)$

$x_1\ y_1 \quad x_2\ y_2$

$m = \frac{12-(-19)}{-20-(-12)} = \frac{12+19}{-20+12} = \boxed{\frac{31}{-8}}$

20. $(5, -8)$ & $(-7, -20)$

$x_1\ y_1 \quad x_2\ y_2$

$m = \frac{-20-(-8)}{-7-(5)} = \frac{-20+8}{-7-5} = \frac{-12}{-12} = \boxed{1}$