

MTH1W — Calculating Slope (Rate of Change) Review Sheet

This worksheet was generated by chatOAME, and AI developed specifically for the Ontario Math Curriculum. It was then reviewed and adjusted by me (Mr. Kempe) before being released to students.

Slope formulas: $m = \frac{\text{rise}}{\text{run}}$ or $m = \frac{y_2 - y_1}{x_2 - x_1}$

Note: Always reduce your fractions!

E.g. Find the slope between the points (1, 3) and (5, -1).

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-1 - 3}{5 - 1} = \frac{-4}{4} = -1$$

Problems

1. A line has rise -6 when the run is 4 . What is the slope?
2. A line has rise 5 when the run is -2 . What is the slope?
3. Find the slope of the line through $(0,1)$ and $(2,5)$.
4. Find the slope of the line through $(-1,2)$ and $(3,0)$.
5. Find the slope of the line through $(2, -3)$ and $(8,9)$.
6. Find the slope of the line through $(-4, -1)$ and $(2,5)$.
7. A line passes through $(1,7)$ and $(5, -1)$. Find the slope.
8. A line passes through $(-2,6)$ and $(4, -3)$. Find the slope.
9. Find the slope of the line through $(3,4)$ and $(7,4)$.
10. Find the slope of the line through $(6, -2)$ and $(6,5)$.
11. Find the slope of the line passing through $(1.5,2)$ and $(4.5,8)$.
12. Find the slope of the line passing through $(-0.5, -3)$ and $(2.5,0.6)$.

13. Line A has slope $\frac{1}{3}$. Line B is parallel to Line A. What is the slope of Line B?

14. Line A has slope $-\frac{3}{4}$. Line B is perpendicular to Line A. What is the slope of Line B?

Answer Key

$$1. m = \frac{-6}{4} = -\frac{3}{2}$$

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

$$3. m = \frac{5-1}{2-0} = 2$$

$$4. m = \frac{0-2}{3-(-1)} = \frac{-2}{4} = -\frac{1}{2}$$

$$5. m = \frac{9-(-3)}{8-2} = \frac{12}{6} = 2$$

$$6. m = \frac{5-(-1)}{2-(-4)} = \frac{6}{6} = 1$$

$$7. m = \frac{-1-7}{5-1} = \frac{-8}{4} = -2$$

$$8. m = \frac{-3-6}{4-(-2)} = \frac{-9}{6} = -\frac{3}{2}$$

$$9. m = \frac{4-4}{7-3} = 0$$

10. Slope is undefined (vertical line).

$$11. m = \frac{8-2}{4.5-1.5} = \frac{6}{3} = 2$$

$$12. m = \frac{0.6-(-3)}{2.5-(-0.5)} = \frac{3.6}{3} = 1.2$$

$$13. m = \frac{1}{3}$$

$$14. m_{\perp} = \frac{4}{3}$$