

Slope & $y = mx + b$

Algebra · Grade 8

● Easy · 10 Questions

Solve each problem. Show your work in the space provided. Write your answer on the line.

1. Find the slope of a line passing through (0, 0) and (4, 8).

Answer: _____

2. Find the slope of a line passing through (2, 3) and (6, 7).

Answer: _____

3. A line has equation $y = 3x - 5$. What is the slope and y-intercept?

Answer: _____

4. A line has equation $y = -2x + 4$. What is the slope?

Answer: _____

5. Write the equation of a line with slope 5 and y-intercept 3.

Answer: _____

6. Find the slope of a horizontal line.

Answer: _____

7. Find the slope of a vertical line.

Answer: _____

8. A line passes through $(0, 6)$ with slope -3 . Write its equation.

Answer: _____

9. Find the slope of the line through (1, 5) and (3, 11).

Answer: _____

10. Does the point (2, 7) lie on the line $y = 3x + 1$?

Answer: _____

Answer Key

Slope & $y = mx + b$ — Easy

1. 2

$$\text{slope} = (8-0)/(4-0) = 8/4 = 2.$$

2. 1

$$\text{slope} = (7-3)/(6-2) = 4/4 = 1.$$

3. slope = 3; y-intercept = -5

In $y=mx+b$, m is slope and b is y-intercept. $m=3$, $b=-5$.

4. -2

In $y=mx+b$, the slope is $m = -2$.

5. $y = 5x + 3$

Use $y=mx+b$ with $m=5$ and $b=3$.

6. 0

Horizontal lines have no rise. $\text{slope} = 0/\text{run} = 0$.

7. Undefined

Vertical lines have no run. $\text{slope} = \text{rise}/0$, which is undefined.

8. $y = -3x + 6$

y-intercept = 6 (from $(0,6)$). $y = mx + b = -3x + 6$.

9. 3

$$\text{slope} = (11-5)/(3-1) = 6/2 = 3.$$

10. Yes

Substitute $x=2$: $y=3(2)+1=7$. Yes, $(2,7)$ is on the line.