

Grade 8 - Slope and Similar Triangles - Quiz

Common Core 8.EE.B.6 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

Pick the best answer for each of the 10 questions about slope from similar triangles and the equations $y = mx$ and $y = mx + b$ (Common Core 8.EE.B.6). Read each question carefully, then read the explanation to learn from any mistake.

Grade 8 · Common Core State Standards: **8.EE.B.6**

Questions

Question 1

What is the slope of the line through (1,3) and (5,11)?

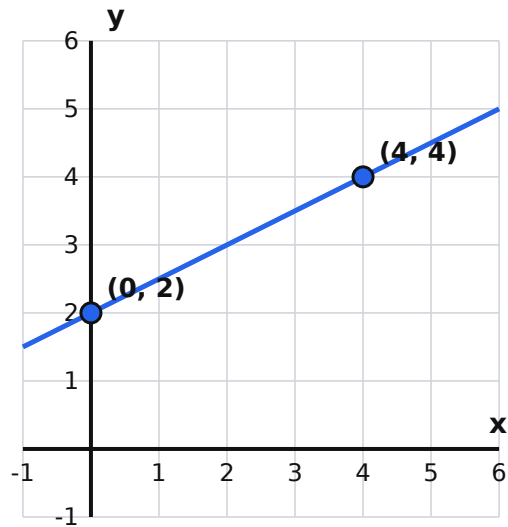
- A. 2
- B. $\frac{1}{2}$
- C. 4
- D. 8

Question 2

What is the y-intercept of $y = 5x - 8$?

- A. 5
- B. 8
- C. -8
- D. $\frac{8}{5}$

Question 3



A line.

Which equation matches the graph?

- A. $y = 2x + 2$
- B. $y = \frac{1}{2}x + 4$
- C. $y = x + 2$
- D. $y = \frac{1}{2}x + 2$

Question 4

Which line is parallel to $y = 3x - 1$?

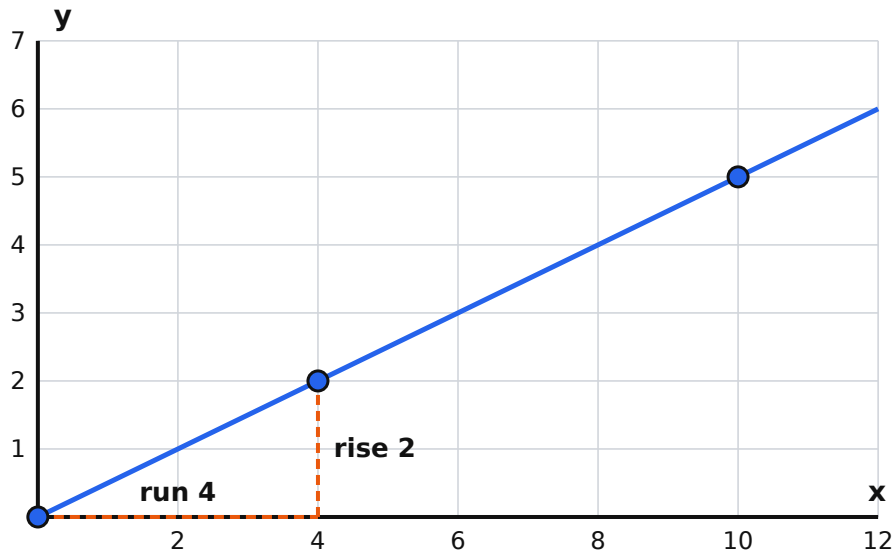
- A. $y = -3x - 1$
- B. $y = \frac{1}{3}x - 1$
- C. $y = 3x + 6$
- D. $y = x - 1$

Question 5

Rewrite $x + y = 9$ in $y = mx + b$ form.

- A. $y = -x + 9$
- B. $y = x + 9$
- C. $y = x - 9$
- D. $y = 9x$

Question 6



Small triangle: run 4, rise 2.

A larger triangle on the same line has a run of 10. What is its rise?

- A. 4
- B. 5
- C. 6
- D. 8

Question 7

A line has slope 3 and passes through $(2,5)$. What is its equation?

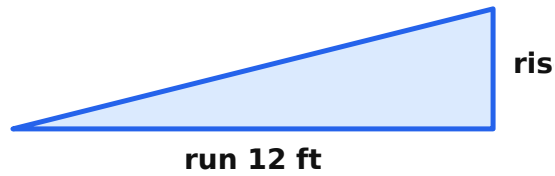
- A. $y = 3x - 1$
- B. $y = 3x + 5$
- C. $y = 3x + 2$
- D. $y = 2x + 3$

Question 8

What is the slope of the line $y = 6$?

- A. 6
- B. undefined
- C. 1
- D. 0

Question 9



A wheelchair ramp at the library.

What is the slope of the ramp?

- A. 4
- B. $\frac{1}{4}$
- C. $\frac{1}{3}$
- D. 15

Question 10

Which point lies on $y = 2x - 3$?

- A. (4,11)
- B. (4,5)
- C. (3,9)
- D. (0,3)

Answers

1. **A** - Rise = 8 and run = 4, so slope = 2. Reversing gives 1/2.
2. **C** - In $y = mx + b$, $b = -8$.
3. **D** - Rise 2 over run 4 gives 1/2, and the line crosses at (0, 2).
4. **C** - Parallel lines have the same slope, 3.
5. **A** - Subtract x from both sides.
6. **B** - Slope 1/2, so rise = $10 \times 1/2 = 5$.
7. **A** - $5 = 6 + b$, so $b = -1$.
8. **D** - A horizontal line has no rise, so its slope is 0.
9. **B** - 3 divided by 12 = 1/4. The run is the horizontal distance, not the length of the ramp.
10. **B** - $2(4) - 3 = 5$.

Remember

- Slope $m = \frac{\text{rise}}{\text{run}} = \frac{y_2 - y_1}{x_2 - x_1}$.
- Any two points on a line give the same slope because the triangles are similar.
- $y = mx$ goes through the origin; $y = mx + b$ crosses the y -axis at $(0, b)$.
- Parallel lines have equal slopes; horizontal lines have slope 0.
- To write an equation, find m , then solve for b with a point.