

Finding Slope

Name: _____ Date: _____ Score: _____ / 18

Quick Review and Helpful Hints

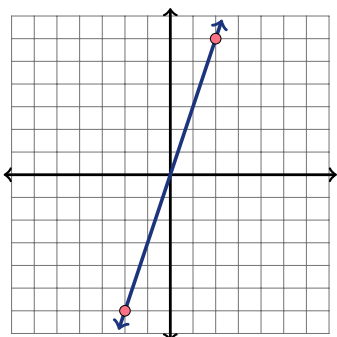
Slope measures steepness: $m = \frac{y_2 - y_1}{x_2 - x_1}$, or rise over run. Keep the subtraction order the same for y and x . Positive slopes rise, negative slopes fall, horizontal lines have slope 0, and vertical lines have undefined slope.

▶ **Example:** Find the slope of the line through $(1, 2)$ and $(4, 8)$. **Work:** Use the formula: $m = \frac{8-2}{4-1} = \frac{6}{3}$. Simplify the fraction. ★ **Answer:** $m = 2$

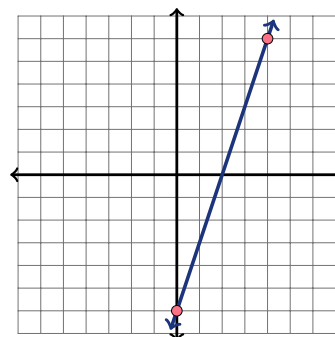
◆ Practice Problems

Find the slope. For graph questions, count rise over run; for point-pair questions, use the slope formula.

1. Use the graph to find the slope of the line.



2. Use the graph to find the slope of the line.



- | | |
|---|--|
| <p>3. $(2, 5)$ and $(6, 5)$ _____</p> <p>4. $(0, 1)$ and $(4, 9)$ _____</p> <p>5. $(1, 4)$ and $(3, 0)$ _____</p> <p>6. $(2, 3)$ and $(5, 12)$ _____</p> <p>7. $(-1, 2)$ and $(1, 6)$ _____</p> <p>8. $(0, 7)$ and $(2, 1)$ _____</p> | <p>9. $(3, 1)$ and $(6, 7)$ _____</p> <p>10. $(1, 1)$ and $(5, 3)$ _____</p> <p>11. $(-2, -3)$ and $(2, 5)$ _____</p> <p>12. $(4, 2)$ and $(4, 9)$ _____</p> <p>13. $(0, 5)$ and $(3, 5)$ _____</p> <p>14. $(2, 1)$ and $(8, 5)$ _____</p> |
|---|--|

◆ Word Problems

- | | |
|--|--|
| <p>15. A ramp rises 3 feet over a horizontal run of 12 feet. What is its slope? _____</p> <p>16. A line passes through $(2, 3)$ and $(5, 12)$. Find its slope. _____</p> | <p>17. A staircase rises 8 inches for every 10 inches forward. What is its slope? _____</p> <p>18. A road drops 50 feet over 200 horizontal feet. What is its slope? _____</p> |
|--|--|



Answer Keys

1. $\boxed{3}$

2. $\boxed{3}$

3. $\boxed{0}$

4. $\boxed{2}$

5. $\boxed{-2}$

6. $\boxed{3}$

7. $\boxed{2}$

8. $\boxed{-3}$

9. $\boxed{2}$

10. $\boxed{\frac{1}{2}}$

11. $\boxed{2}$

12. $\boxed{\text{undefined}}$

13. $\boxed{0}$

14. $\boxed{\frac{2}{3}}$

15. $\boxed{\frac{1}{4}}$

16. $\boxed{3}$

17. $\boxed{\frac{4}{5}}$

18. $\boxed{-\frac{1}{4}}$

Step-by-Step Explanations

1. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Graph: rise 6, run 2, so $m = 3$. So the final answer is 3.

2. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Graph: rise 6, run 2, so $m = 3$. So the final answer is 3.

3. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Matching y -values give rise 0: $m = \frac{0}{4} = 0$. So the final answer is 0.

4. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $m = \frac{9-1}{4-0} = \frac{8}{4} = 2$. So the final answer is 2.

5. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $m = \frac{0-4}{3-1} = \frac{-4}{2} = -2$. So the final answer is -2 .

6. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $m = \frac{12-3}{5-2} = \frac{9}{3} = 3$. So the final answer is 3.

7. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $m = \frac{6-2}{1-(-1)} = \frac{4}{2} = 2$. So the final answer is 2.

8. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $m = \frac{1-7}{2-0} = \frac{-6}{2} = -3$. So the final answer is -3 .

9. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $m = \frac{7-1}{6-3} = \frac{6}{3} = 2$. So the final answer is 2.

10. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $m = \frac{3-1}{5-1} = \frac{2}{4} = \frac{1}{2}$. So the final answer is $\frac{1}{2}$.

11. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $m = \frac{5-(-3)}{2-(-2)} = \frac{8}{4} = 2$. So the final answer is 2.

12. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is The x -values match, so the run is 0 and the slope is undefined. So the final answer is undefined.

13. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Matching y -values give rise 0, so the slope is 0. So the final answer is 0.

14. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $m = \frac{5-1}{8-2} = \frac{4}{6} = \frac{2}{3}$. So the final answer is $\frac{2}{3}$.

15. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Slope $= \frac{3}{12} = \frac{1}{4}$. So the final answer is $\frac{1}{4}$.

16. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $m = \frac{12-3}{5-2} = \frac{9}{3} = 3$. So the final answer is 3.

17. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Slope $= \frac{8}{10} = \frac{4}{5}$. So the final answer is $\frac{4}{5}$.

18. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is The road drops, so rise is negative: $m = \frac{-50}{200} = -\frac{1}{4}$. So the final answer is $-\frac{1}{4}$.



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