Slope in real life: ramps, roads, roofs and stairs worksheet – Grade 9

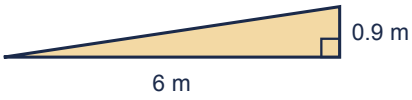
Grade 9 · Mixed level · 20 questions · **Version X8777**

Name: _____ Date: _____ Score: ___ / 20

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1. The picture shows a loading ramp. What is its slope? (Give a fraction or a decimal to the nearest hundredth.)

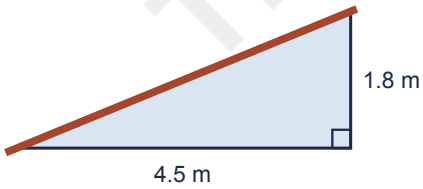


Answer: _____

2. Road slopes are called grades and are written as percents. A road rises 80 m over a horizontal distance of 1000 m. What is its grade? (%)

Answer: _____ %

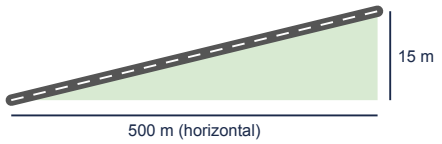
3. The picture shows one side of a roof. What is its slope? (Give a fraction or a decimal to the nearest hundredth.)



Answer: _____

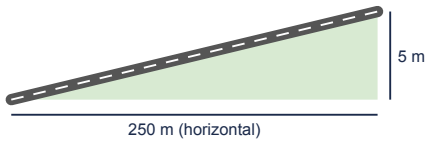
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4. What is the grade of this road, as a percent? (%)



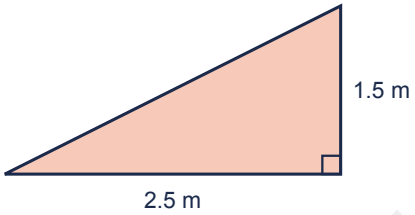
Answer: _____ %

5. Work out the grade of this road, as a percent. (%)



Answer: _____ %

6. The picture shows a playground slide. What is its slope? (Give a fraction or a decimal to the nearest hundredth.)

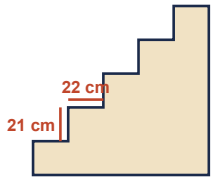


Answer: _____

7. A roof has a slope of $\frac{2}{5}$. Its horizontal run is 12 m. How high does it rise? (m)

Answer: _____ m

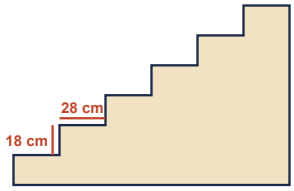
8. A comfortable staircase has a slope between 0.6 and 0.8. Is this staircase in the comfortable range?



A. Yes **B.** No

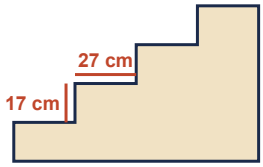
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9. Work out the slope of this staircase, to the nearest hundredth.



Answer: _____

10. What is the slope of this staircase, to the nearest hundredth?



Answer: _____

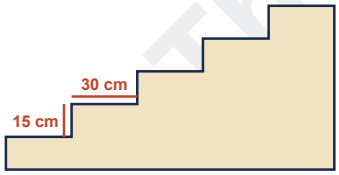
11. A highway has a grade of 7%. How many metres does it climb over a horizontal distance of 0.5 km? (m)

Answer: _____ m

12. A wheelchair ramp can have a slope of at most $\frac{1}{12}$. A ramp must rise 0.6 m to reach a door. What is the shortest horizontal run it can have? (m)

Answer: _____ m

13. Find the slope of this staircase, to the nearest hundredth.



Answer: _____

14. A building rule says a wheelchair ramp can be no steeper than a slope of $\frac{1}{12}$ (about 0.083). Arjun's ramp rises 0.65 m over a horizontal run of 7.2 m. Does it meet the rule?

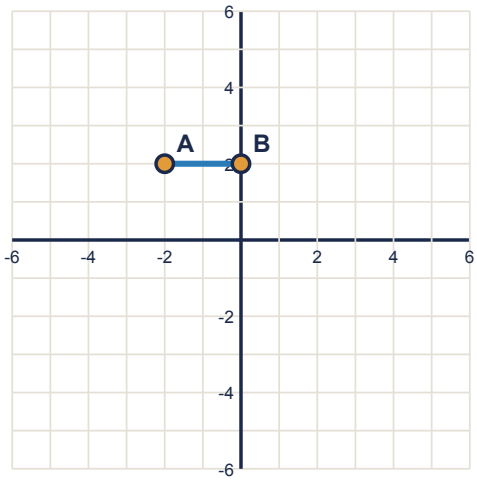
A. Yes **B.** No

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15. Ramp A rises 0.8 m over a run of 8 m. Ramp B rises 1.5 m over a run of 9 m. Which ramp is steeper?

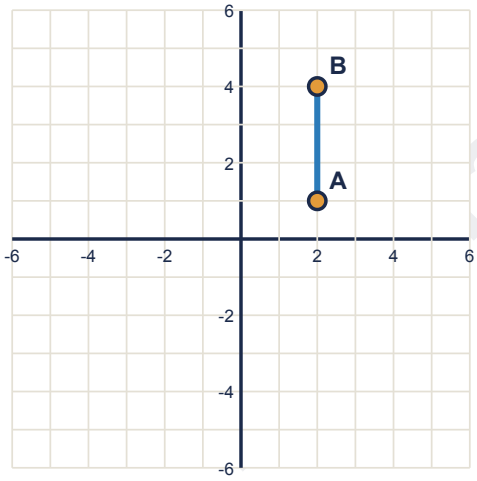
    A. Ramp A **B.** Ramp B **C.** They are equally steep

16. Work out the slope of segment AB.



    A. 0 **B.** Undefined **C.** 1 **D.** −1

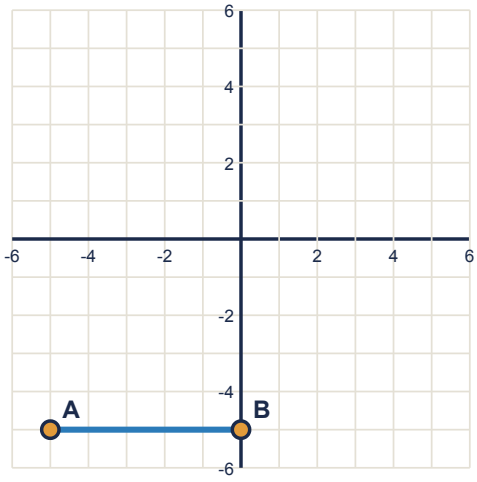
17. What is the slope of segment AB?



    A. 0 **B.** Undefined **C.** 1 **D.** −1

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18. Find the slope of segment AB.



A. 0 **B.** Undefined **C.** 1 **D.** −1

19. A line segment starts at $(-2, -5)$ and has slope $-\frac{3}{5}$. Which point could be its other endpoint?

A. $(3, -8)$ **B.** $(3, -2)$ **C.** $(1, -10)$ **D.** $(-7, -8)$

20. Think about "a flagpole". Which describes its slope?

A. 0 **B.** Undefined **C.** 1 **D.** −1

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Answer key · Version X8777

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1. **3/20**
2. **8**
3. **2/5**
4. **3**
5. **2**
6. **3/5**
7. **4.8**
8. **B (No)**
9. **0.64**
10. **0.63**
11. **35**
12. **7.2**
13. **0.50**
14. **B (No)**
15. **B (Ramp B)**
16. **A (0)**
17. **B (Undefined)**
18. **A (0)**
19. **A (**$(3, -8)$**)**
20. **B (Undefined)**

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