

3.4 Slope & Rate of Change CYU

Use when you get it right all by yourself
S Use when you did it all by yourself, but made a silly mistake
H Use when you could do it alone with a little help from teacher or peer
G Use when you completed the problem in a group
X Use when a question was attempted but wrong (get help)
N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Vocabulary	1 - 7		
Finding slope from two points	8 - 10		
Finding slope from a graph	11 - 13		
Describing Slope	14 - 16		

Fill in the blank with vocabulary from section 3.3.

- The measure of the steepness or tilt of a line is called slope.
- If an equation is written in the form $y = mx + b$, the value of the letter m is the value of the slope of the graph.
- The slope of a horizontal line is 0.
- The slope of a vertical line is undefined.
- If the graph of a line moves upward from left to right, the line has a positive slope.
- If the graph of a line moves downward from left to right, the line has a negative slope.
- Given two points of a line, slope = $\frac{\text{change in } y}{\text{change in } x}$.

Find the slope of the line that passes through the given points. Show your work for full credit.

8. $(-1, 5) \text{ \& } (6, -2)$

$m = -1$

9. $(-4, 3) \text{ \& } (-4, 5)$

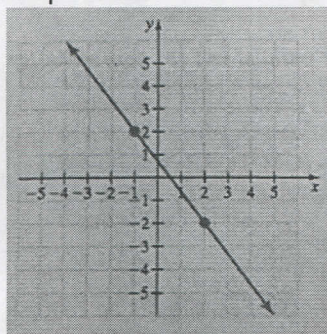
undefined

10. $(-2, 8) \text{ \& } (1, 6)$

$-\frac{2}{3} = m$

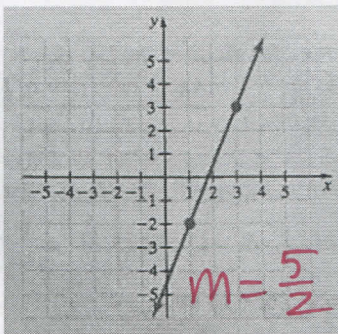
Find the slope of each line.

11.



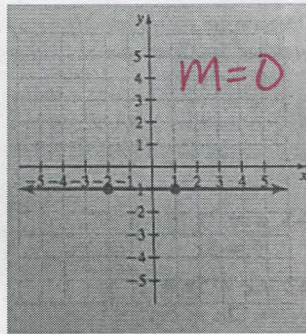
$m = -\frac{4}{3}$

12.



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

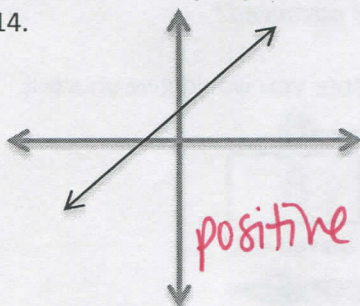
13.



$m = 0$

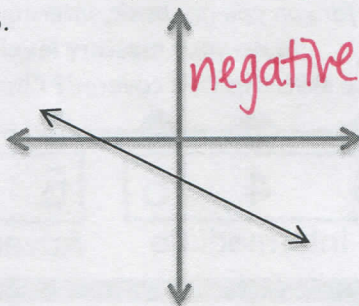
State whether the slope of the line is positive, negative, zero, or undefined.

14.



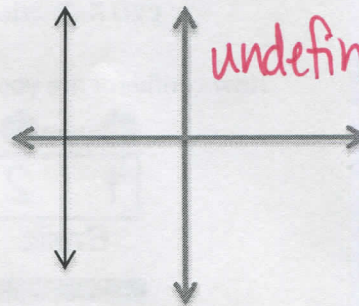
positive

15.



negative

16.



undefined

Find the slope of each line.

17. $x = 6$

undefined

18. $y = -4$

$m = 0$

19. $x = -3$

undefined

20. $y = 0$

$m = 0$

Find the slope of the line. Show your work for full credit.

21. $y = 5x - 2$

$m = 5$

22. $2x + y = 7$

$y = -2x + 7$
 $m = -2$

23. $-3x - 4y = 6$

$m = -\frac{3}{4}$

24. $24x - 3y = 5.7$

$m = 8$

Find the slope of the line that is (a) parallel and (b) perpendicular to the line through each pair of points. Show your work for full credit.

25. $(-3, -3)$ & $(0, 0)$

// (a) = 1

⊥ (b) = -1

26. $(6, -2)$ & $(1, 4)$

// (a) = $-\frac{6}{5}$

⊥ (b) = $\frac{5}{6}$

27. $(6, -1)$ & $(-4, -10)$

// (a) = $\frac{9}{10}$

⊥ (b) = $-\frac{10}{9}$

Determine whether each pair of lines is parallel, perpendicular, or neither. Show your work for full credit.

28. $y = \frac{2}{9}x + 3$
 $y = -\frac{2}{9}x$

neither

29. $6x = 5y + 1$
 $-12x + 10y = 1$

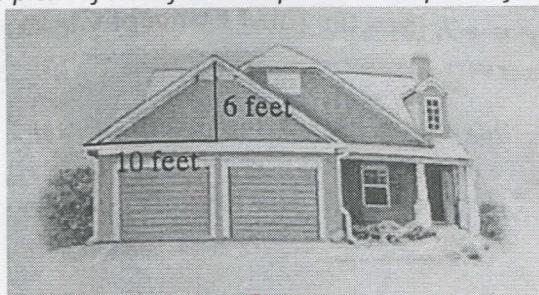
//

30. $6 + 4x = 3y$
 $3x + 4y = 8$

⊥

The pitch of a roof is its slope. Find the pitch of each roof shown. Show your work for full credit.

31.



$m = \frac{3}{5}$

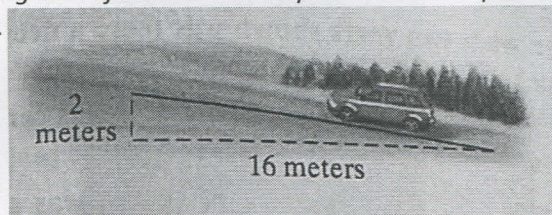
32.



$m = \frac{1}{2}$

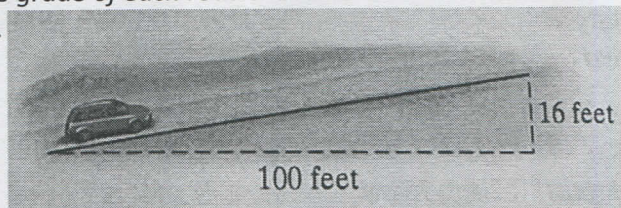
The grade of a road is its slope written as a percent. Find the grade of each road shown.

33.



12.5%

34.

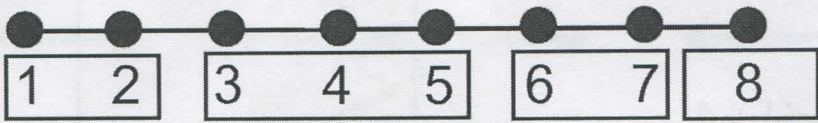


16%

CYU Reflection: How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself



Basic

Intermediate

Advanced

Solved ALL!

