

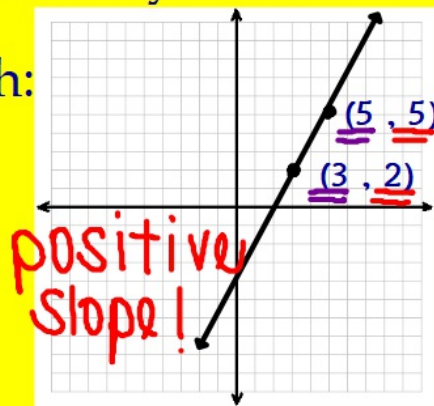
Warm Up

January 24, 2019

1. Identify the slope given the graph:

$$m = \frac{\text{change in } y}{\text{change in } x} = \frac{3}{2}$$

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



2. Write the equation of a line in slope-intercept form that has a slope of $\frac{1}{2}$ and passes through $(-6, 4)$.

$y = mx + b$

$m = \frac{1}{2}$ $y = mx + b$

$b = 7$ $4 = \frac{1}{2}(-6) + b$

$4 = -3 + b$

$+3 \quad +3$

$y = \frac{1}{2}x + 7$

3.) Write the equation of the line that passes through $(-2, 5)$ and $(-2, 12)$ $\hookrightarrow y = mx + b$

$$m = \frac{12 - 5}{-2 - (-2)} = \frac{7}{0} = \text{undefined!}$$

$x = -2$

TBT Quiz #1 Study Guide

#1 constant rate → positive slope!
 linearly → rises!

$$5:30 + 1.4 \rightarrow (5.5, 1.4)$$

$$7:00 + 2.9 \rightarrow (7, 2.9)$$

$$m = \frac{2.9 - 1.4}{7 - 5.5} = \frac{1.5}{1.5} = 1$$

depth increases
 by 1ft. every
 hour

$$7:00 \rightarrow 2.9$$

$$8:00 \rightarrow 3.9$$

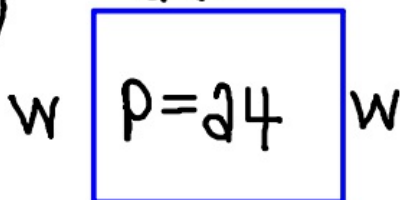
$$9:00 \rightarrow 4.9$$

$$10:00 \rightarrow 5.9$$

5.9 feet

#2

$$2(w-3) \rightarrow 2w-6$$



$$2w-6 + w + 2w-6 + w = 24$$

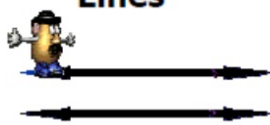

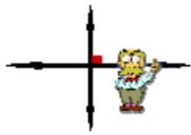
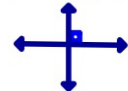
$$6w - 12 = 24$$

$$+12 \quad +12$$

$$\frac{6w}{6} = \frac{36}{6}$$

$$w = 6$$

$$w = 6$$

Main Ideas/Questions	Notes
<p>Parallel Lines</p> 	<p>Definition: lines traveling in the same direction that do not intersect.</p> <p>Algebraically, how do we know if two lines are parallel?</p>  <p>The slopes are EQUAL.</p>
<p>Perpendicular Lines</p> 	<p>Definition: lines that intersect a right angle.</p> <p>Algebraically, how do we know if two lines are perpendicular?</p>  <p>The slopes are OPPOSITE RECIPROCAL.</p>
<p>What are negative reciprocals???</p>	<p>DIFFERENTS SIGNS. FLIPPED.</p> <p>Some examples...</p> <p>1) $\frac{3}{4}$ & $-\frac{4}{3}$ 2) 2 & $-\frac{1}{2}$ 3) $-\frac{7}{8}$ & $\frac{8}{7}$ 4) 1 & -1 5) 0 & undef.</p>

Parallel, Perpendicular, or Neither?

1. AB formed by (-2, 3) and (2, 6)
CD formed by (-1, 0) and (3, 3)

$$\overline{AB} = \frac{6-3}{2-(-2)} = \frac{3}{4}$$

$$\overline{CD} = \frac{3-0}{3-(-1)} = \frac{3}{4}$$

parallel

2. AB formed by (0, 2) and (5, 4)
CD formed by (1, 8) and (3, 3)

$$\overline{AB} = \frac{4-2}{5-0} = \frac{2}{5}$$

$$\overline{CD} = \frac{3-8}{3-1} = -\frac{5}{2}$$

perpendicular

Label your slopes clearly!

Two for Two Minutes.

3. AB formed by (-1, 8) and (2, 6)
CD formed by (-1, 2) and (3, 3)

$$\overline{AB} = \frac{6-8}{2-(-1)} = -\frac{2}{3}$$

$$\overline{CD} = \frac{3-2}{3-(-1)} = \frac{1}{4}$$

Neither

4. AB formed by (2, 3) and (-1, 4)
CD formed by (-5, 3) and (-4, 6)

$$\overline{AB} = \frac{4-3}{-1-2} = -\frac{1}{3}$$

$$\overline{CD} = \frac{6-3}{-4-(-5)} = \frac{3}{1}$$

perpendicular

Determine if the equations are parallel, perpendicular, and neither.

9. $y = 7x + 2$ and $y = 7x - 1$

$m = 7$ $m = 7$
parallel

10. $y = \frac{4}{5}x - 8$ and $y = -\frac{5}{4}x + 3$

$m = \frac{4}{5}$ $m = -\frac{5}{4}$
perpendicular

11. $y = -\frac{1}{3}x + 2$ and $y = \frac{1}{3}x$

$m = -\frac{1}{3}$ $m = \frac{1}{3}$

neither

12. $x + 6y = 30$ and $3y = 18x - 6$

$-x - x$ $\frac{3}{3} \frac{18x}{3} - \frac{6}{3}$

$\frac{6y}{6} = \frac{-x+30}{6}$ $y = 6x - 2$

$y = -\frac{1}{6}x + 5$

perpendicular