

Geometry BELL WORK

Classify the relationship between each pair of angles as *alternate interior*, *alternate exterior*, *corresponding*, or *consecutive interior* angles.

- 1) $\angle 4$ and $\angle 5$

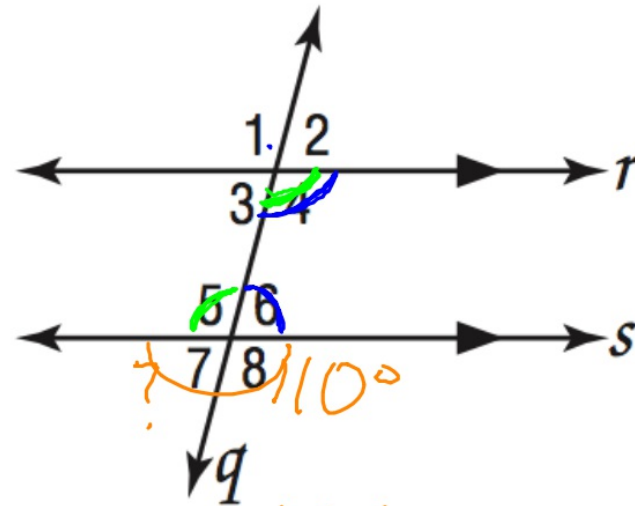
alternate
interior

- 2) $\angle 4$ and $\angle 6$

consecutive
interior

- 3) If $m\angle 8 = 110^\circ$, what is $m\angle 7$?

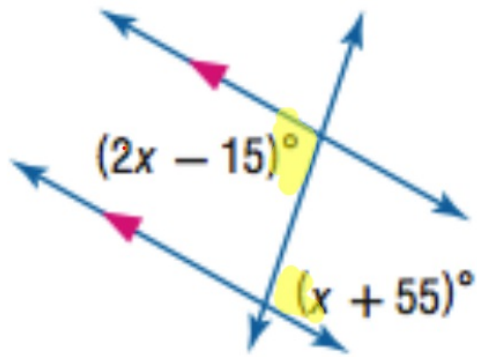
70°



$$\begin{array}{r} 180 \\ -110 \\ \hline 70 \end{array}$$

Assignment:

3.2 pg. 181 # 1-10



alt. interior
(congruent)

justification

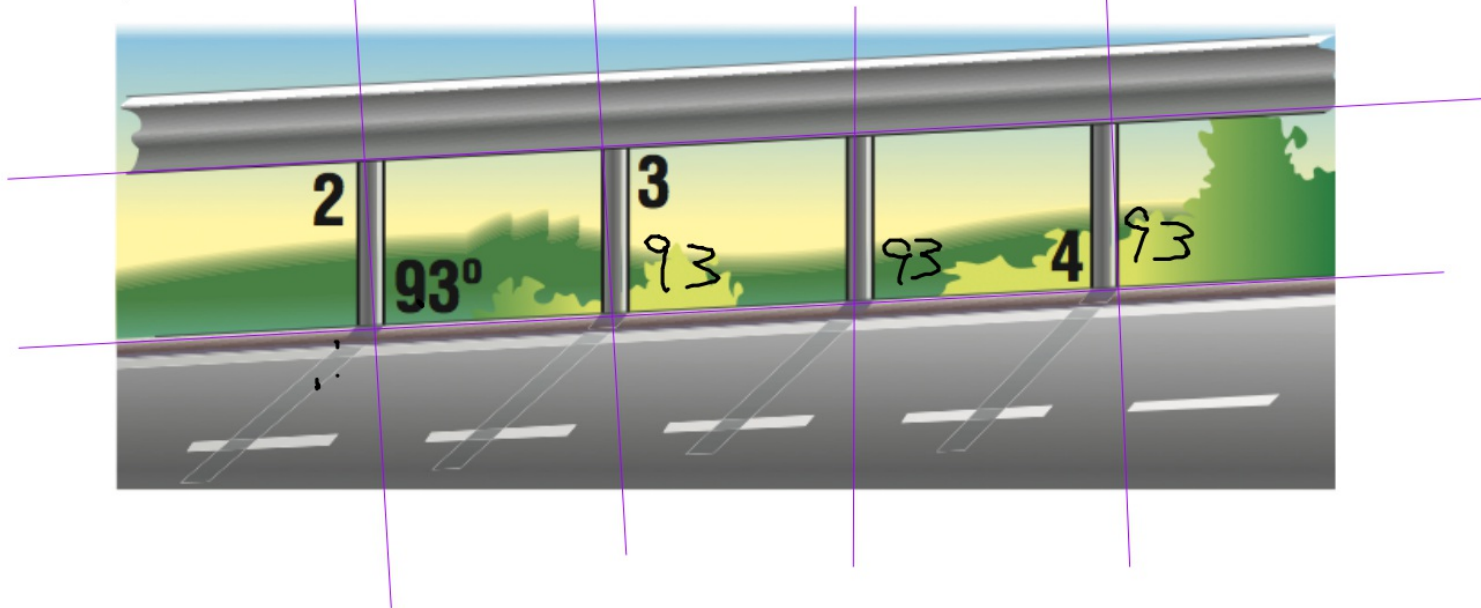
$$\begin{array}{r} 2x - 15 = x + 55 \\ -x \quad \quad -x \\ \hline x - 15 = 55 \end{array}$$

ROADS In the diagram, the guard rail is parallel to the surface of the roadway and the vertical supports are parallel to each other. Find the measures of angles 2, 3, and 4.

alt int
 $m\angle 2 = 93^\circ$

consec
interior
 $m\angle 3 =$

linear pair
 $m\angle 4 = 87^\circ$



3-3 Slopes of Lines

We used angle relationships in parallel lines to determine congruent angles.

Today we will:

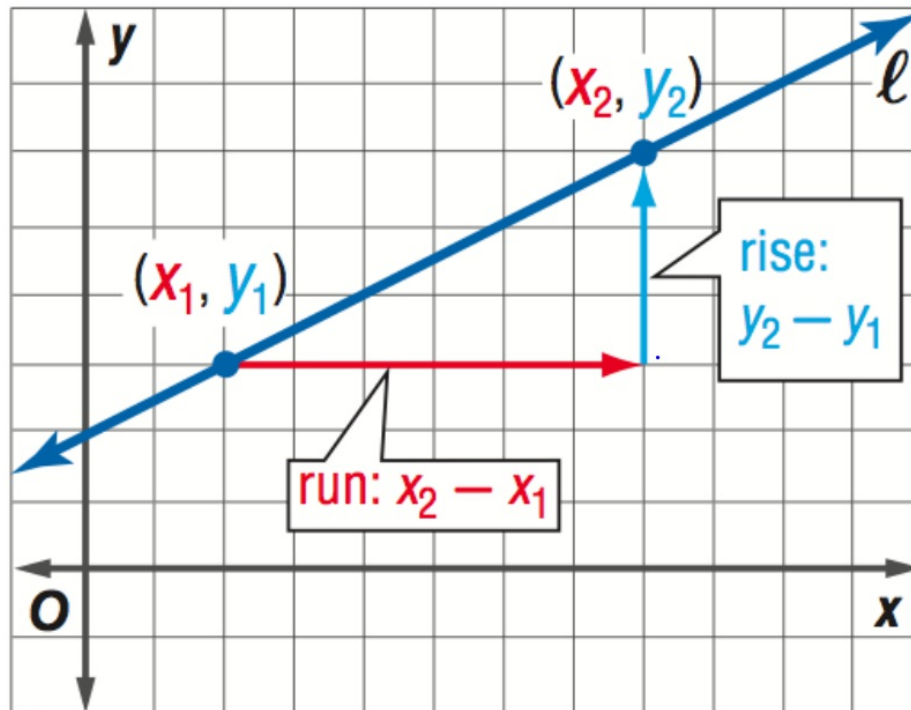
- * Find slopes of lines.
- * Use slope to identify parallel and perpendicular lines

(G.CO.C.9 Congruence: Prove theorems about lines and angles)

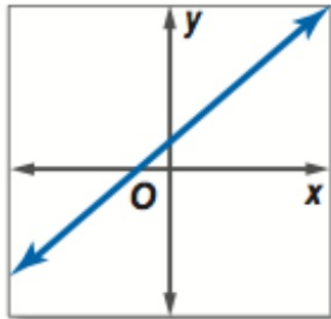
The rate of change on a graph is the slope.

Slope (m) is measured as

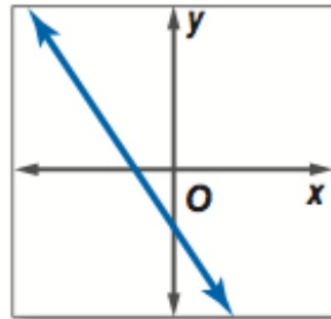
$$m = \frac{\text{rise}}{\text{run}} = \frac{y_2 - y_1}{x_2 - x_1}$$



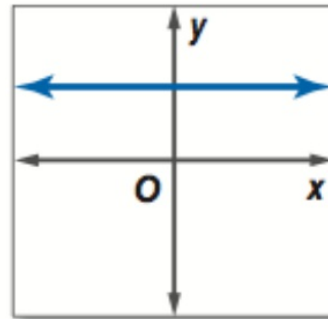
Positive Slope



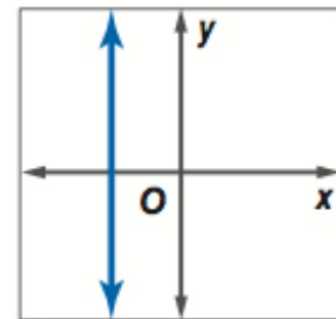
Negative Slope



Zero Slope



Undefined Slope



Determine the slope of the line that contains the given points.

1. $S(-1, 2), W(0, 4)$

x_1, y_1, x_2, y_2

$$\frac{y_2 - y_1}{x_2 - x_1}$$

$$\frac{4 - 2}{0 - (-1)} = \frac{2}{1}$$

$$= \textcircled{2}$$

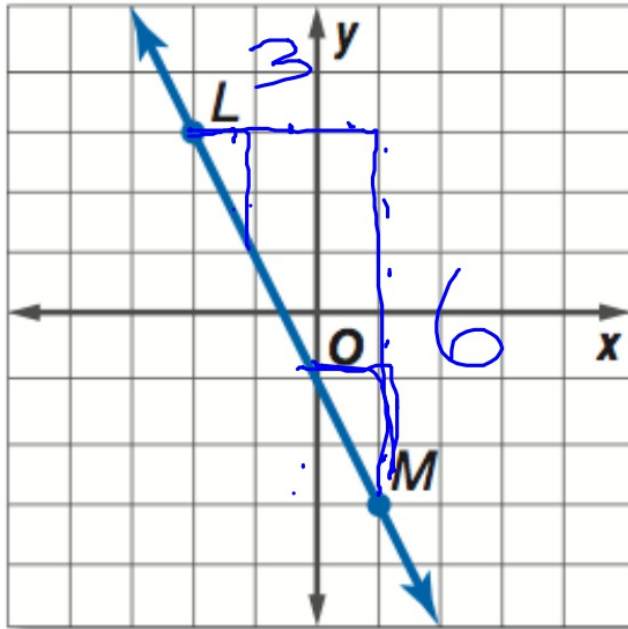
2. $G(-2, 5), H(1, -7)$

x_1, y_1, x_2, y_2

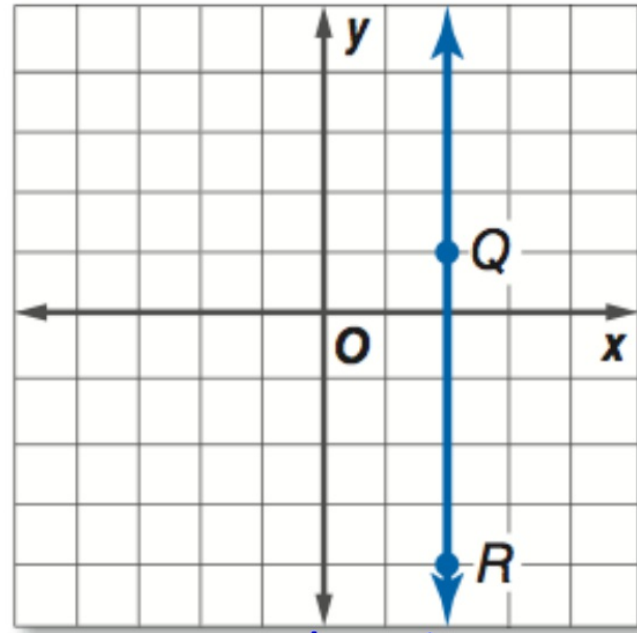
$$\frac{-7 - 5}{1 - (-2)} = \frac{-12}{3}$$

$$= \textcircled{-4}$$

Find the slope of each line.

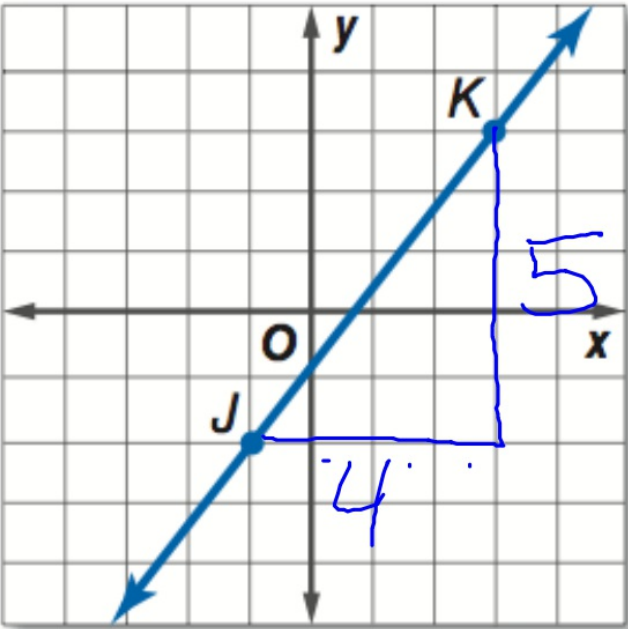


$$-\frac{6}{3} = -\frac{2}{1} = -2$$

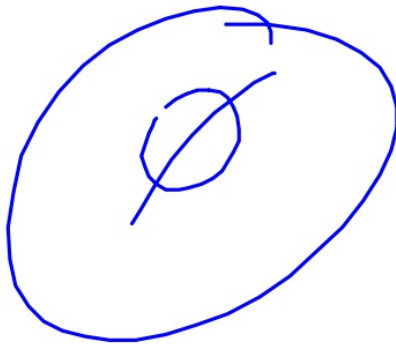
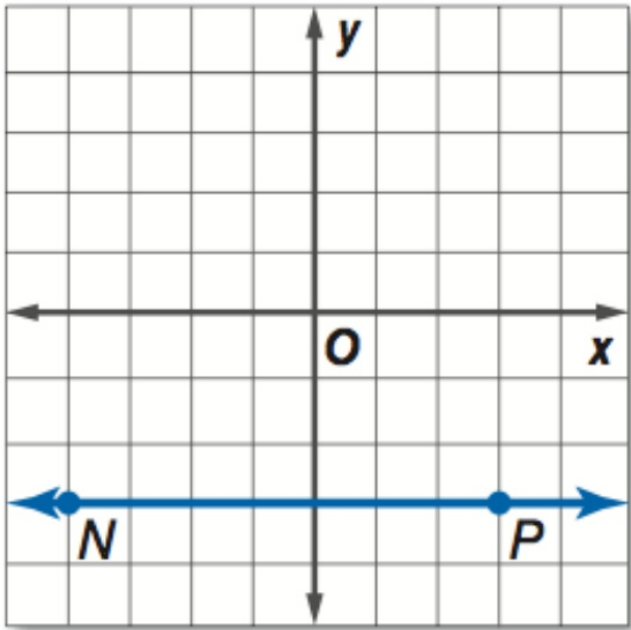


undefined

Find the slope of each line.



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



	$(1, 1)$ $(-2, -2)$	$\frac{m}{m} = 1$
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Activity: matching slopes and graphs

Here are the potential answers:

$(1, -2)$ $(3, 1)$	$slope = -1$	$slope = 1$	$(2, -2)$ $(0, -1)$
$slope = -\frac{3}{2}$	$(-4, -2)$ $(0, 4)$	$(-2, -1)$ $(0, 3)$	$slope = -2$
$(-2, 2)$ $(0, 3)$	$slope = 2$	$slope = \frac{3}{2}$	$(1, -2)$ $(3, 2)$
$slope = -\frac{1}{2}$	$(-2, -2)$ $(2, -6)$	$(1, -2)$ $(0, 1)$	$slope = \frac{1}{2}$
$slope = -3$	$slope = 2$	$(0, 4)$ $(2, 1)$	$(-2, -3)$ $(0, 1)$
$(-2, -2)$ $(1, 1)$	$(2, -2)$ $(1, 0)$	$slope = 2$	$slope = \frac{3}{2}$

Graph	Points	Slope

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Assignment:

3.3a pg 191 # 12-21 (18-21 SHOW ALL WORK!)