

Slope(3): Slope of Parallel Lines

Name: _____

Class: _____ ()

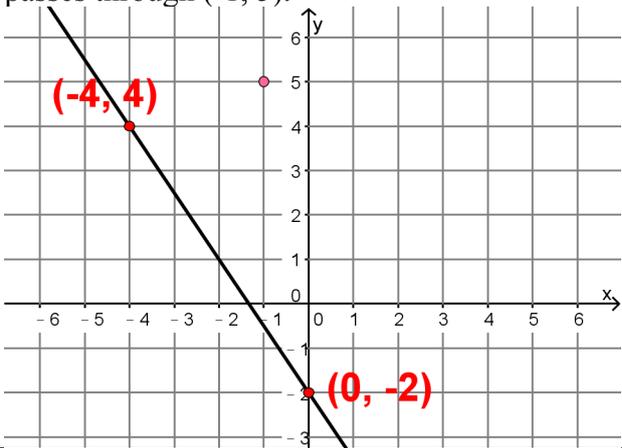
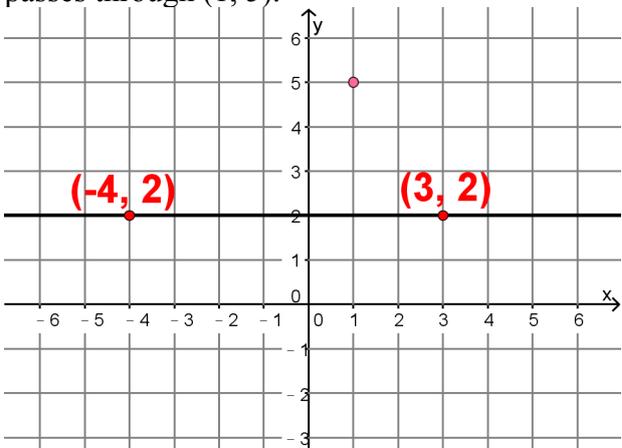
Date: _____

Go to “GeoGebra Classroom” and follow your teacher’s instructions.

Check “Show coordinate changes”, “Show axes” and “Show second line”.

In each of the following question, drag the two red points and one the of the pink point to the given positions, then drag the remaining pink point to a position such that the two lines become parallel to each other. Note that “arrow” symbols appear when the two lines become parallel.

<p>1. Draw the line that is parallel to the given line and passes through (3, 1).</p>	<p>Horizontal change of the first line = _____ Vertical change of the first line = _____ \therefore Slope of the first line $m_1 =$ _____</p> <p>Horizontal change of the second line = _____ Vertical change of the second line = _____ \therefore Slope of the second line $m_2 =$ _____</p> <p>Is m_1 equal to m_2? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>2. Draw the line that is parallel to the given line and passes through (3, 3).</p>	<p>Horizontal change of the first line = _____ Vertical change of the first line = _____ \therefore Slope of the first line $m_1 =$ _____</p> <p>Horizontal change of the second line = _____ Vertical change of the second line = _____ \therefore Slope of the second line $m_2 =$ _____</p> <p>Is m_1 equal to m_2? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>3. Draw the line that is parallel to the given line and passes through (2, 5).</p>	<p>Horizontal change of the first line = _____ Vertical change of the first line = _____ \therefore Slope of the first line $m_1 =$ _____</p> <p>Horizontal change of the second line = _____ Vertical change of the second line = _____ \therefore Slope of the second line $m_2 =$ _____</p> <p>Is m_1 equal to m_2? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>

4.	Draw the line that is parallel to the given line and passes through $(-1, 5)$. 	Horizontal change of the first line = _____ Vertical change of the first line = _____ \therefore Slope of the first line $m_1 =$ _____ Horizontal change of the second line = _____ Vertical change of the second line = _____ \therefore Slope of the second line $m_2 =$ _____ Is m_1 equal to m_2 ? <input type="checkbox"/> Yes <input type="checkbox"/> No
5.	Draw the line that is parallel to the given line and passes through $(1, 5)$. 	Horizontal change of the first line = _____ Vertical change of the first line = _____ \therefore Slope of the first line $m_1 =$ _____ Horizontal change of the second line = _____ Vertical change of the second line = _____ \therefore Slope of the second line $m_2 =$ _____ Is m_1 equal to m_2 ? <input type="checkbox"/> Yes <input type="checkbox"/> No

Conclusion:

When two lines are _____ to each other,
 their slopes are _____, and vice versa.

Exercise: There are two pairs of parallel lines. Can you find them out?

Line	L_1	L_2	L_3	L_4	L_5	L_6	L_7	L_8	L_9
Slope	$\frac{1}{2}$	-2	$-\frac{2}{3}$	1.5	-2	$\frac{4}{3}$	$\frac{3}{4}$	$-\frac{1}{2}$	$\frac{3}{2}$

Answer: _____ is parallel to _____

_____ is parallel to _____