Algebra Support
Topic: Graphing Linear Functions

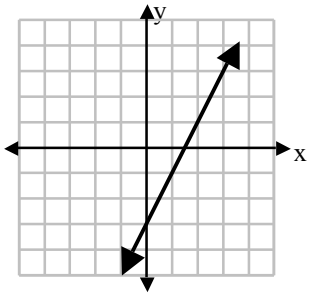
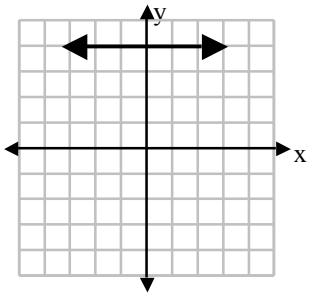
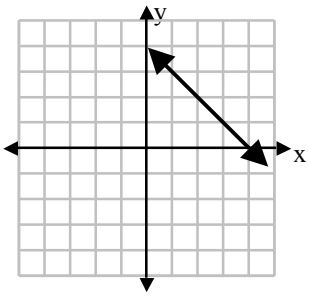
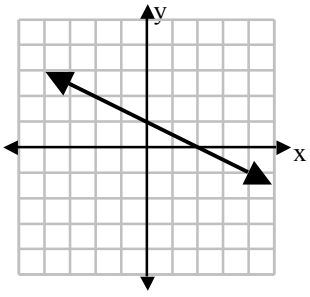
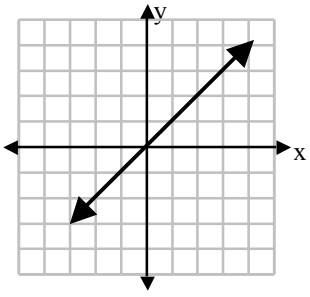
Linear Functions Graph Match Activity

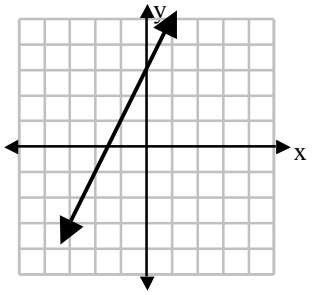
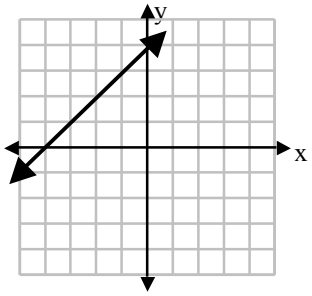
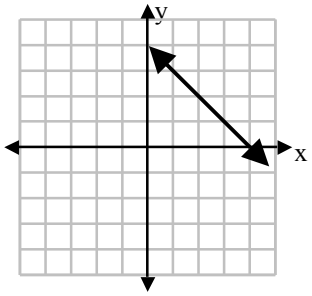
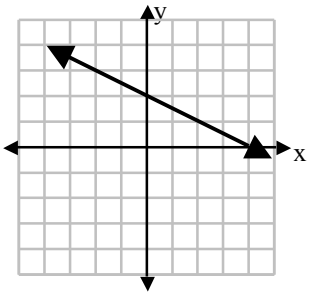
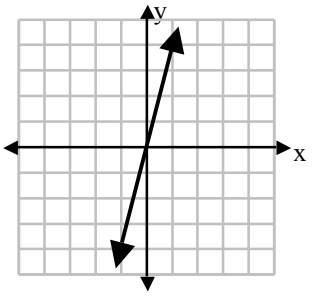
Teacher Instructions:

- Xerox and cut apart the following 2 pages of cards. When cutting, purposely trim extra off of edges so that students will not try to match edges. Place one complete set in an envelope, one envelope per group (group size: 2 – 4).
- Provide each group with blank answer grids (2 pages) and glue sticks (or tape)
- Students are to match the 4 representations

Variations:

- Leave out of the envelope 2 or three pieces (an equation from one row, a graph from another, a table from another). Students are required to generate the missing pieces.
- If students are working on graphing, leave out all of the graph pieces and require students to generate.
- If students are working on writing equations, leave out all of the equation pieces and require students to generate.

Verbal Description	Tabular Representation	Graph	Symbolic Representation
y is 3 less than twice a number x	<table><tr><th>x</th><th>y</th></tr><tr><td>-4</td><td>-11</td></tr><tr><td>-2</td><td>-7</td></tr><tr><td>0</td><td>-3</td></tr><tr><td>2</td><td>1</td></tr><tr><td>4</td><td>5</td></tr></table>		$y = 2x - 3$
y maintains a constant value	<table><tr><th>x</th><th>y</th></tr><tr><td>-4</td><td>4</td></tr><tr><td>-2</td><td>4</td></tr><tr><td>0</td><td>4</td></tr><tr><td>2</td><td>4</td></tr><tr><td>4</td><td>4</td></tr></table>		$y = 4$
The sum of x and y is 4.	<table><tr><th>x</th><th>y</th></tr><tr><td>-4</td><td>8</td></tr><tr><td>-2</td><td>6</td></tr><tr><td>0</td><td>4</td></tr><tr><td>2</td><td>2</td></tr><tr><td>4</td><td>0</td></tr></table>		$x + y = 4$
The opposite of half the value of x, when increased by 1 results in the value of y.	<table><tr><th>x</th><th>y</th></tr><tr><td>-4</td><td>3</td></tr><tr><td>-2</td><td>2</td></tr><tr><td>0</td><td>1</td></tr><tr><td>2</td><td>0</td></tr><tr><td>4</td><td>-1</td></tr></table>		$y = -\frac{1}{2}x + 1$
The input for this function is identical to the output.	<table><tr><th>x</th><th>y</th></tr><tr><td>-4</td><td>-4</td></tr><tr><td>-2</td><td>-2</td></tr><tr><td>0</td><td>0</td></tr><tr><td>2</td><td>2</td></tr><tr><td>4</td><td>4</td></tr></table>		$y = x$

y is equal to the sum of 3 and twice a number x	**x** | **y** **-4** | -5 **-2** | -1 **0** | 3 **2** | 7 **4** | 11		y = 2x + 3
y is always 4 more than x.	**x** | **y** **-4** | 0 **-2** | 2 **0** | 4 **2** | 6 **4** | 8		y = x + 4
The sum of x and y is 4.	**x** | **y** **-4** | 8 **-2** | 6 **0** | 4 **2** | 2 **4** | 0		x + y = 4
When x is increased by twice y, the result is 4.	**x** | **y** **-4** | 4 **-2** | 3 **0** | 2 **2** | 1 **4** | 0		x + 2y = 4
This function is a direct variation with a constant of variation equal to 4.	**x** | **y** **-4** | -16 **-2** | -8 **0** | 0 **2** | 8 **4** | 16		y = 4x

Verbal Description	Tabular Representation	Graph	Symbolic Representation