

U10-4 Direct Variation Equations

Fill in the table for each equation, graph, then find the slope of the graph.

Equation	Table of Input/Output Values	Slope of the graph												
1) $y = 6x$	<table border="1"><thead><tr><th>x</th><th>y</th></tr></thead><tbody><tr><td>-2</td><td></td></tr><tr><td>-1</td><td></td></tr><tr><td>0</td><td></td></tr><tr><td>1</td><td></td></tr><tr><td>2</td><td></td></tr></tbody></table>	x	y	-2		-1		0		1		2		
x	y													
-2														
-1														
0														
1														
2														
2) $y = \frac{1}{4}x$	<table border="1"><thead><tr><th>x</th><th>y</th></tr></thead><tbody><tr><td>-16</td><td></td></tr><tr><td>-4</td><td></td></tr><tr><td>0</td><td></td></tr><tr><td>4</td><td></td></tr><tr><td>2</td><td></td></tr></tbody></table>	x	y	-16		-4		0		4		2		
x	y													
-16														
-4														
0														
4														
2														
3) $y = -2x$	<table border="1"><thead><tr><th>x</th><th>y</th></tr></thead><tbody><tr><td>-2</td><td></td></tr><tr><td>-1</td><td></td></tr><tr><td>0</td><td></td></tr><tr><td>1</td><td></td></tr><tr><td>2</td><td></td></tr></tbody></table>	x	y	-2		-1		0		1		2		
x	y													
-2														
-1														
0														
1														
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4) $y = -\frac{1}{2}x$	<table border="1"><thead><tr><th>x</th><th>y</th></tr></thead><tbody><tr><td>-8</td><td></td></tr><tr><td>-2</td><td></td></tr><tr><td>0</td><td></td></tr><tr><td>2</td><td></td></tr><tr><td>8</td><td></td></tr></tbody></table>	x	y	-8		-2		0		2		8		
x	y													
-8														
-2														
0														
2														
8														
5) $y = -4x$	<table border="1"><thead><tr><th>x</th><th>y</th></tr></thead><tbody><tr><td>-2</td><td></td></tr><tr><td>-1</td><td></td></tr><tr><td>0</td><td></td></tr><tr><td>1</td><td></td></tr><tr><td>2</td><td></td></tr></tbody></table>	x	y	-2		-1		0		1		2		
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6) $y = x$	<table border="1"><thead><tr><th>x</th><th>y</th></tr></thead><tbody><tr><td>-2</td><td></td></tr><tr><td>-1</td><td></td></tr><tr><td>0</td><td></td></tr><tr><td>1</td><td></td></tr><tr><td>2</td><td></td></tr></tbody></table>	x	y	-2		-1		0		1		2		
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Once you have graphed all 6 equations answer the following questions.

1. What do all the graphs have in common?	2. Where do the graphs intersect the x and y-axis?
3. Which graphs slant upward as you look from left to right? Write their equations.	4. What is the same about all of the equations of the graphs from question #3.
5. Which graphs slant downward as you look from left to right? Write their equations.	6. What is the same about all the equations of the graphs from questions #5.
7. What is the equation of the steepest graph? Write the equation.	8. What is the equation of the flattest graph? Write the equation.
9. Order the equations of the graphs in order from steepest to flattest? Write the equations.	10. What do you notice about the steepest and flattest graphs from questions #9 above?

11.