



**THIRD SPACE  
LEARNING**

# X and Y Axis Worksheet

Algebra

**Grades 6 to 8**

## Skill Questions

Name: .....

Date: .....

- 1 The equation,  $y = 2x$ , is represented in the table below. Find the missing values.

$x$	-1	0		
$y$			4	14

Answer

- 2 Using the list of ordered pairs below, identify the numbers that represent the independent values and the numbers that represent the dependent values.

(3, 7)

(-3, 8)

(0, -8)

(10, 18)

Answer

- 3 Using this table of values, identify an appropriate scale to use for the  $x$ -axis on a graph.

Numbers of customers	Frequency
0 - 4	1
5 - 9	6
10 - 14	14
15 - 19	9
20 - 24	1

Answer

- 4 The range of values for a set of data is 14 to 20. How is a broken scale shown on this axis?

Answer

- 5 The table below shows the number of strides and the time taken in seconds to run 100m. Identify how to label the axes on a graph.

Number of strides	77	79	84	80
Time (s)	13.6	14.7	13.3	14.2

Answer

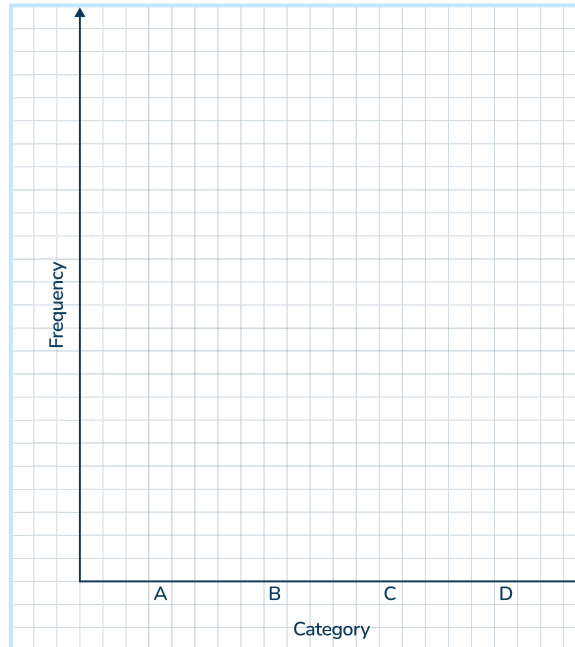
- 6 Use the equation relating distance and time to complete the table.

$$d = 25t$$

$t$	$d$
3	
	100
	150

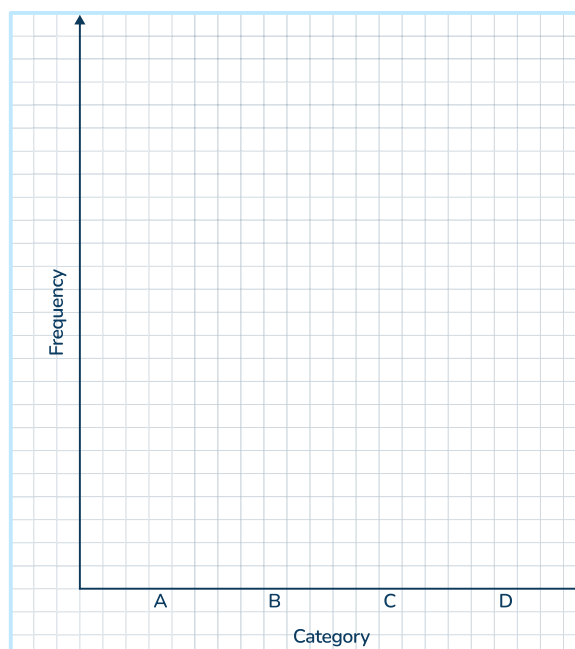
- 7 Given the data, draw an appropriate vertical scale on the graph below.

Category	A	B	C	D
Frequency	3	6	1	10



- 8 Given the data, draw an appropriate vertical scale on the graph below.

Category	A	B	C	D
Frequency	50	35	65	40

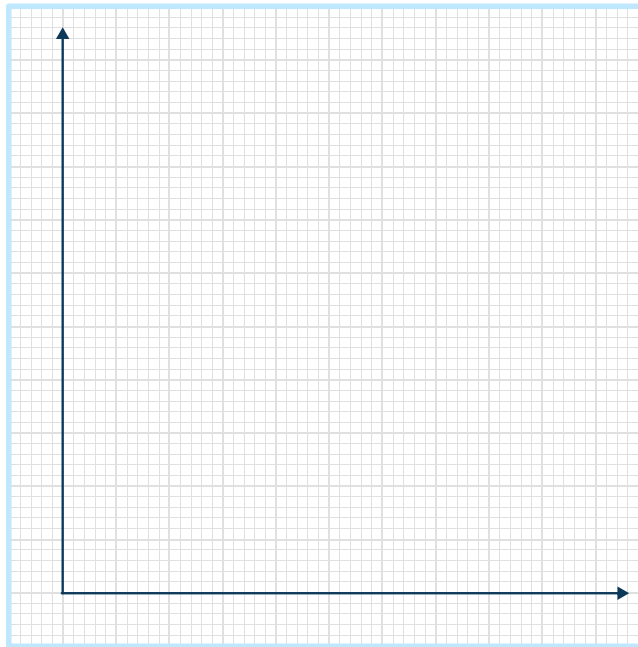




## X and Y Axis Worksheet | Grades 6 to 8

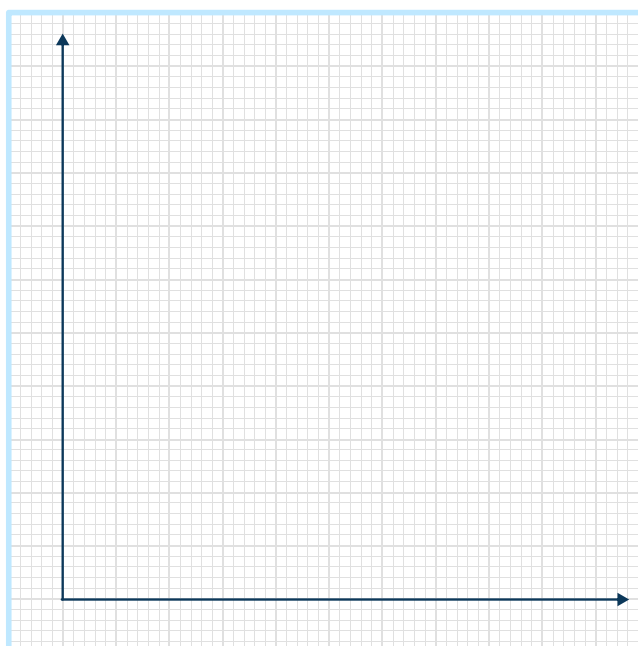
- 9 Using the table, draw the axis for the scatter graph on the graph paper below.

Maths score	8	12	6	18	10	4	16	11
Physics Score	10	13	5	20	8	5	12	14



- 10 Using the table, draw the axis for the scatter graph on the graph paper below.

Height (cm)	156	159	148	160	177	156	167	169
Weight (kg)	53	60	44	53	54	60	64	70



## Applied Questions

- 11** A group of people were asked what their favorite type of footwear is. Below is a table showing the results.

Favourite type of footwear	Frequency
Boots	14
Trainers	15
Sandals	13
Flip flops	6
High heels	12

What type of data is represented in the table?

- a. Discrete
- b. Continuous
- c. Secondary
- d. Random

Answer

- 12** The table represents the relationship between the amount of time (in hours) a truck driver drives and the distance the truck goes (in miles).

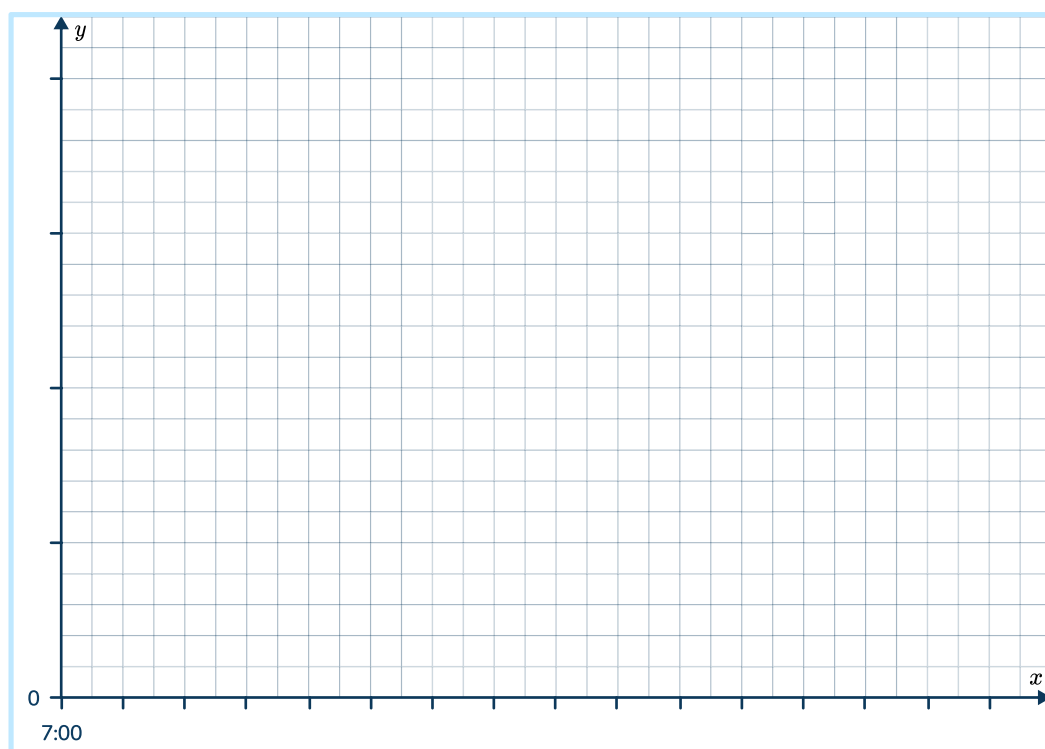
hours	2	4	5		9
miles	120	240		420	

- A. Find the missing values.
- B. What is an appropriate scale for the x and y axis.

Answer

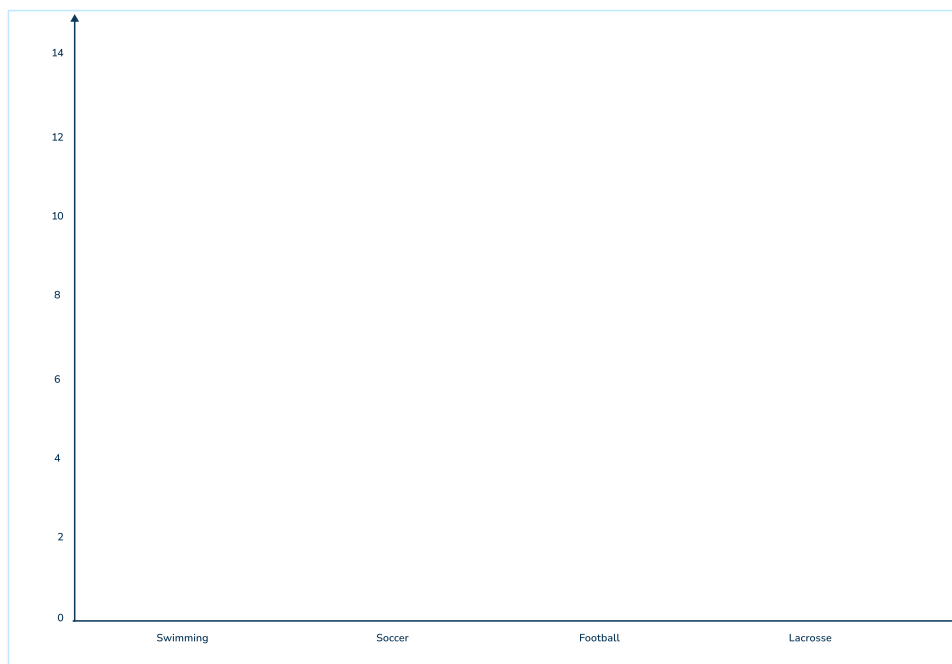
- 13** A sandwich shop is recording the number of sandwiches sold per hour during one day of trade. The shop opens at 7:30 am. Draw a line graph to represent the time series of the data set. Use the axes below to help you.

Time of the day ( $t$ )	Number of sandwiches sold
$7:30 \leq t < 8:30$	14
$8:30 \leq t < 9:30$	9
$9:30 \leq t < 10:30$	10
$10:30 \leq t < 11:30$	6
$11:30 \leq t < 12:30$	38
$12:30 \leq t < 13:30$	34
$13:30 \leq t < 14:30$	16



**14** Create a histogram representing the data below.

Favourite sport	Frequency
Swimming	8
Soccer	13
Football	5
Lacrosse	9



**15** Write the equation that is represented in the table.

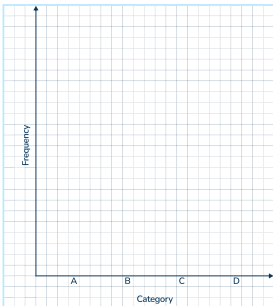
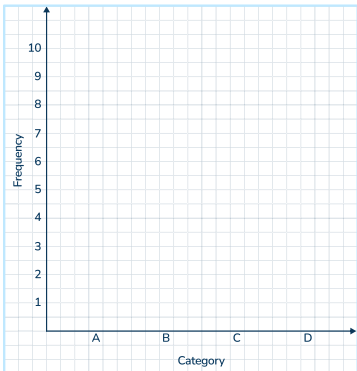
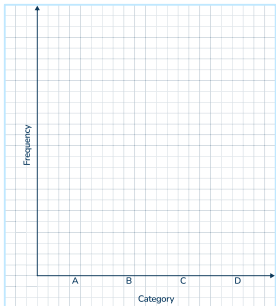
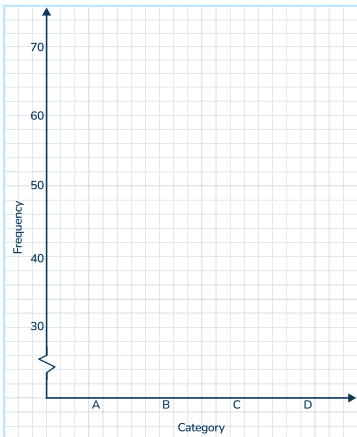
$x$	0	2	6	8
$y$	0	-18	-54	-72

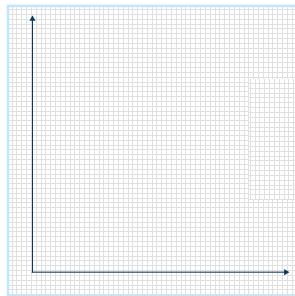
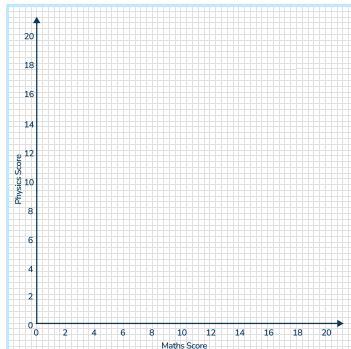
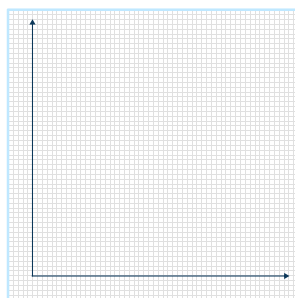
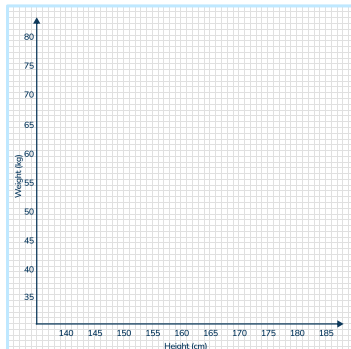
Answer

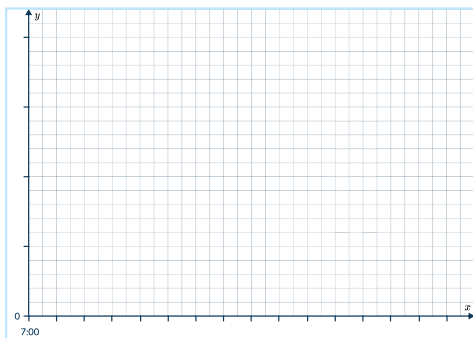
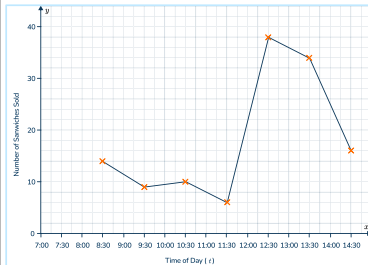
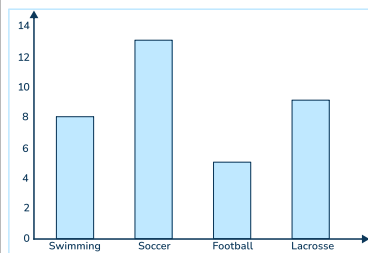
## Answers

Question number	Question	Answers	Standard												
1	<p>The equation, <math>y = 2x</math>, is represented in the table below. Find the missing values.</p> <table><tr><td><math>x</math></td><td>-1</td><td>0</td><td></td><td></td></tr><tr><td><math>y</math></td><td></td><td></td><td>4</td><td>14</td></tr></table>	$x$	-1	0			$y$			4	14	$x = -1, y = -2$ $x = 0, y = 0$ $x = 2, y = 4$ $x = 7, y = 14$	6.EE.C.9		
$x$	-1	0													
$y$			4	14											
2	<p>Using the list of ordered pairs below, identify the numbers that represent the independent values and the numbers that represent the dependent values.</p> <p>(3, 7) (-3, 8) (0, -8) (10, 18)</p>	<p>Independent values: 3, -3, 0, 10</p> <p>Dependent values: 7, 8, -8, 18</p>	6.EE.C.9												
3	<p>Using this table of values, identify an appropriate scale to use for the <math>x</math>-axis on a graph.</p> <table><tr><th>Numbers of customers</th><th>Frequency</th></tr><tr><td>0 - 4</td><td>1</td></tr><tr><td>5 - 9</td><td>6</td></tr><tr><td>10 - 14</td><td>14</td></tr><tr><td>15 - 19</td><td>9</td></tr><tr><td>20 - 24</td><td>1</td></tr></table>	Numbers of customers	Frequency	0 - 4	1	5 - 9	6	10 - 14	14	15 - 19	9	20 - 24	1	0-24, by 2s	6.SP.B.4
Numbers of customers	Frequency														
0 - 4	1														
5 - 9	6														
10 - 14	14														
15 - 19	9														
20 - 24	1														
4	<p>The range of values for a set of data is 14 to 20. How is a broken scale shown on this axis?</p>	A zigzag line which compresses the axis as there are no data values in this location	6.SP.B.4												

# X and Y Axis Worksheet | Grades 6 to 8 | Answers

Question number	Question	Answers	Standard										
5	<p>The table below shows the number of strides and the time taken in seconds to run 100m. Identify how to label the axes on a graph.</p> <table border="1"><tr><td>Number of strides</td><td>77</td><td>79</td><td>84</td><td>80</td></tr><tr><td>Time (s)</td><td>13.6</td><td>14.7</td><td>13.3</td><td>14.2</td></tr></table>	Number of strides	77	79	84	80	Time (s)	13.6	14.7	13.3	14.2	<p><math>y</math> = number of strides <math>x</math> = time</p>	6.SP.B.4
Number of strides	77	79	84	80									
Time (s)	13.6	14.7	13.3	14.2									
6	<p>Use the equation relating distance and time to complete the table. <math>d = 25t</math></p> <table border="1"><tr><td><math>t</math></td><td><math>d</math></td></tr><tr><td>3</td><td></td></tr><tr><td></td><td>100</td></tr><tr><td></td><td>150</td></tr></table>	$t$	$d$	3			100		150	<p><math>t = 3, d = 75</math> <math>t = 4, d = 100</math> <math>t = 6, d = 150</math></p>	6.EE.C.9		
$t$	$d$												
3													
	100												
	150												
7	<p>Given the data, draw an appropriate vertical scale on the graph below.</p> <table border="1"><tr><td>Category</td><td>A</td><td>B</td><td>C</td><td>D</td></tr><tr><td>Frequency</td><td>3</td><td>6</td><td>1</td><td>10</td></tr></table> 	Category	A	B	C	D	Frequency	3	6	1	10		6.EE.C.9
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Maths score	8	12	6	18	10	4	16	11													
Physics Score	10	13	5	20	8	5	12	14													
10	<p>Using the table, draw the axis for the scatter graphs on the graph paper below.</p> <table><tr><td>Height (cm)</td><td>156</td><td>159</td><td>148</td><td>160</td><td>177</td><td>156</td><td>167</td><td>169</td></tr><tr><td>Weight (kg)</td><td>53</td><td>60</td><td>44</td><td>53</td><td>54</td><td>60</td><td>64</td><td>70</td></tr></table> 	Height (cm)	156	159	148	160	177	156	167	169	Weight (kg)	53	60	44	53	54	60	64	70		6.EE.C.9
Height (cm)	156	159	148	160	177	156	167	169													
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11	<p>A group of people were asked what their favorite type of footwear is. Below is a table showing the results.</p> <table><tr><td>Favourite type of footwear</td><td>Frequency</td></tr><tr><td>Boots</td><td>14</td></tr><tr><td>Trainers</td><td>15</td></tr><tr><td>Sandals</td><td>13</td></tr><tr><td>Flip flops</td><td>6</td></tr><tr><td>High heels</td><td>12</td></tr></table> <p>What type of data is represented in the table?</p> <p>a. Discrete</p> <p>b. Continuous</p> <p>c. Secondary</p> <p>d. Random</p>	Favourite type of footwear	Frequency	Boots	14	Trainers	15	Sandals	13	Flip flops	6	High heels	12	Discrete	6.SP.B.4						
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hours	2	4	5		9														
miles	120	240		420															
13	<p>A sandwich shop is recording the number of sandwiches sold per hour during one day of trade. The shop opens at 7:30 am. Draw a line graph to represent the time series of the data set. Use the axes below to help you.</p> <table border="1"><thead><tr><th>Time of the day (<math>t</math>)</th><th>Number of sandwiches sold</th></tr></thead><tbody><tr><td><math>7:30 \leq t &lt; 8:30</math></td><td>14</td></tr><tr><td><math>8:30 \leq t &lt; 9:30</math></td><td>9</td></tr><tr><td><math>9:30 \leq t &lt; 10:30</math></td><td>10</td></tr><tr><td><math>10:30 \leq t &lt; 11:30</math></td><td>6</td></tr><tr><td><math>11:30 \leq t &lt; 12:30</math></td><td>38</td></tr><tr><td><math>12:30 \leq t &lt; 13:30</math></td><td>34</td></tr><tr><td><math>13:30 \leq t &lt; 14:30</math></td><td>16</td></tr></tbody></table> 	Time of the day ( $t$ )	Number of sandwiches sold	$7:30 \leq t < 8:30$	14	$8:30 \leq t < 9:30$	9	$9:30 \leq t < 10:30$	10	$10:30 \leq t < 11:30$	6	$11:30 \leq t < 12:30$	38	$12:30 \leq t < 13:30$	34	$13:30 \leq t < 14:30$	16		6.SP.B.4
Time of the day ( $t$ )	Number of sandwiches sold																		
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$12:30 \leq t < 13:30$	34																		
$13:30 \leq t < 14:30$	16																		
14	<p>Create a histogram representing the data below.</p> <table border="1"><thead><tr><th>Favourite sport</th><th>Frequency</th></tr></thead><tbody><tr><td>Swimming</td><td>8</td></tr><tr><td>Soccer</td><td>13</td></tr><tr><td>Football</td><td>5</td></tr><tr><td>Lacrosse</td><td>9</td></tr></tbody></table>	Favourite sport	Frequency	Swimming	8	Soccer	13	Football	5	Lacrosse	9		6.SP.B.4						
Favourite sport	Frequency																		
Swimming	8																		
Soccer	13																		
Football	5																		
Lacrosse	9																		



## X and Y Axis Worksheet | Grades 6 to 8 | Answers




Question number	Question	Answers	Standard										
5	<table><tr><td><math>x</math></td><td>0</td><td>2</td><td>6</td><td>8</td></tr><tr><td><math>y</math></td><td>0</td><td>-18</td><td>-54</td><td>-72</td></tr></table>	$x$	0	2	6	8	$y$	0	-18	-54	-72	$y = -9x$	6.EE.C.9
$x$	0	2	6	8									
$y$	0	-18	-54	-72									

## Do you have a group of students who need a boost in math?

Each student could receive a personalized lesson every week from our specialist one-on-one math tutors.

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- ✓ Aligned to your state's standard
- ✓ Scaffolded learning to close gaps

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