

# Module 11

## Lesson 3

I will be able to graph a linear equation.

Write an equation to represent the function table:

	Input	1	2	3	4	5
	Output	9	18	27	36	45

*Handwritten annotations:*

- Vertical axis labels:  $x$  and  $y$  on the left.
- Input values 1, 2, and 3 are circled in purple.
- Output values 9, 18, and 27 are circled in purple.
- Arrows labeled  $+1$  show the progression from input 1 to 2, and from 2 to 3.
- Arrows labeled  $+9$  show the progression from output 9 to 18, and from 18 to 27.
- The equation  $9x = y$  is circled in purple.

Write an equation to represent the function table:

<b>Input</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Output</b>	<b>16</b>	<b>32</b>	<b>48</b>	<b>64</b>	<b>80</b>



## Linear equation:

A function that graphs a line

$$I = X$$

- ★ Independent Variable - represents the x
- ★ Dependent Variable - represents the y

$$D = y$$

## Graphing a linear equation: *at least 3*

Step 1: Make a table of values - Choose some for x and use the equation to find the corresponding y value

$\frac{x}{y}$   
↓

OR

x	equation	y	(x, y)
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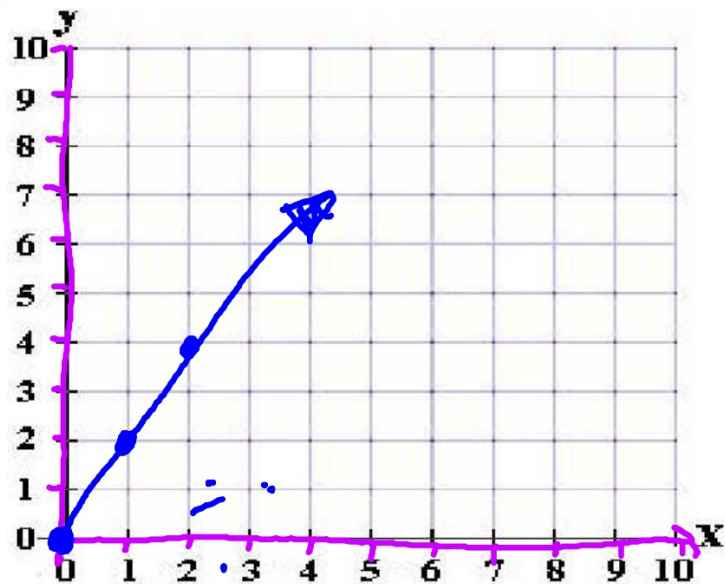
Step 2: Plot the ordered pairs from the table

Step 3: Draw a line through all of the points

Graph:  $y = 2x$

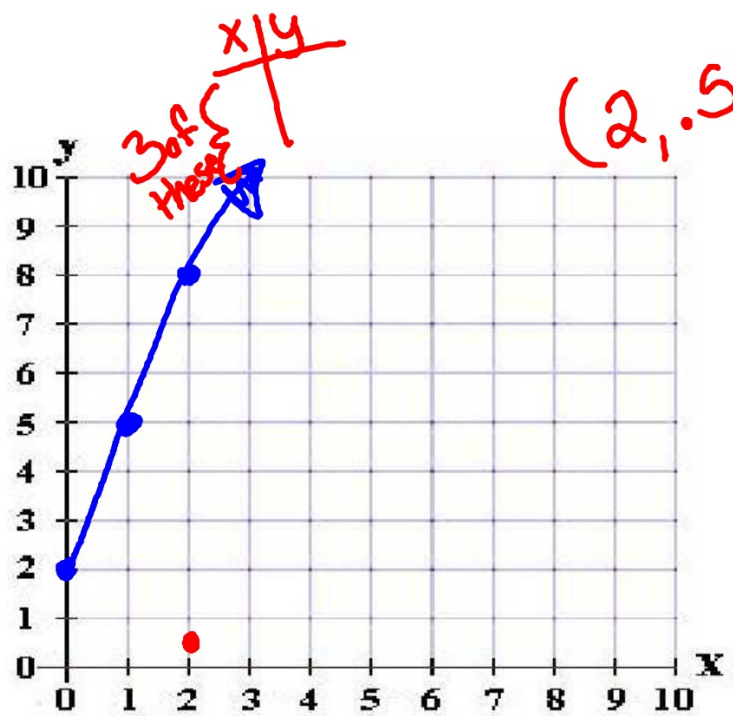
*work* *answer* *ordered pair*

x	2x	y	(x,y)
0	2·0	0	(0,0)
1	2·1	2	(1,2)
2	2·2	4	(2,4)



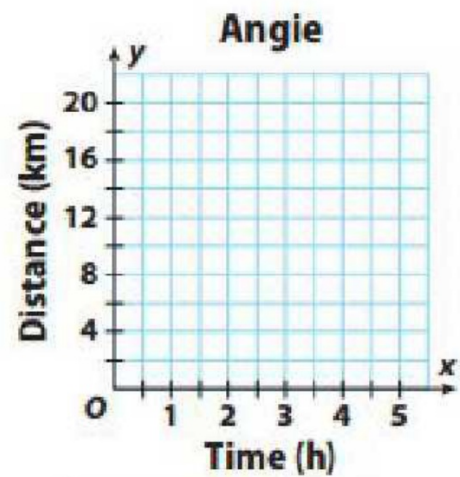
Graph:  $y = 3x + 2$

x	$3x + 2$	y	(x,y)
0	$3 \cdot 0 + 2$	2	(0,2)
1	$3 \cdot 1 + 2$	5	(1,5)
2	$3 \cdot 2 + 2$	8	(2,8)



Time (h)	0	1	2	3	4
Angie's distance (km)	0	5	10		

Angie's walking speed is 5 kilometers per hour, and May's is 4 kilometers per hour. Show how the distance each girl walks is related to time.

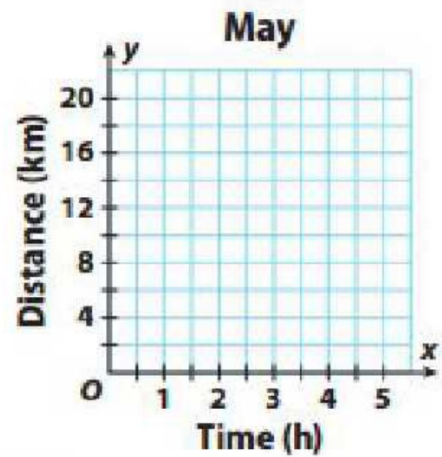


Angie's equation: \_\_\_\_\_



Time (h)	0	1	2	3	4
May's distance (km)	0	4	8		

Angie's walking speed is 5 kilometers per hour, and May's is 4 kilometers per hour. Show how the distance each girl walks is related to time.



May's equation: \_\_\_\_\_

3, 4, 5, 14

x   y
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Equation

x	y	(x, y)
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## Write an Equation from a Graph!

Cherise pays the entrance fee to visit a museum, then buys souvenirs at the gift shop. The graph shows the relationship between the total amount she spends at the museum and the amount she spends at the gift shop. Write an equation to represent the relationship.

Gift shop amount (\$)	0	5	10	15	
Total amount (\$)	5	10			

