I Can Explain the Relationship between Independent and Dependent Variables using Tables, Graphs, and Equations.

# Multiple Representations of Functions

Real-World Link

It costs $3 to bowl a game and $5 to rent shoes.

Complete the table and then write an equation that shows the relationship between the number of games bowled and the total cost.

Number of Games	Cost for Games and Shoe Rental	Total Cost
1	3(1) + 5	
2	3( ) + 5	11
	3(3) +	14
	3( ) + 5	
	3(5) +	

2. Students are selling wreaths for a fundraiser. Each wreath sells for $16.

Fundraiser					
Wreaths Sold	5	10	15	20	25
Dollars Made	80		240		
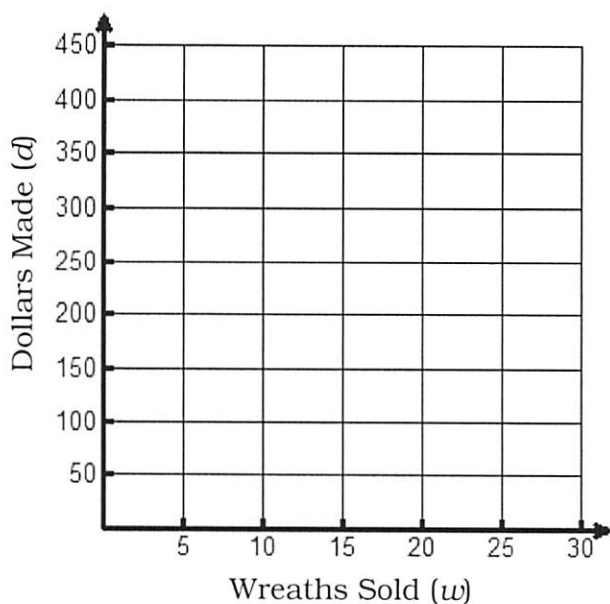
Write an **equation** that relates the wreaths sold (w) and dollars made (d).

How many wreaths must the students sell to make $640?

Example:

1. A movie rental club charges a one-time fee of $25 to join and $2 for every movie rented. Which equation represents the cost of joining the club and renting any number of movies?

(1) $C = 2 + 25m$

(3) $C = 25 + 2m$

(2) $C = 2m$

(4) $C = 25m$

2. A math teacher has multiple choice questions and short answer questions. Each multiple choice question is worth 2 points and each short answer is worth 5 points. Which equation represents the total points for the test?

(1) $P = 7ms$

(3) $P = 2 + 5$

(2) $P = 2s + 5m$

(4) $P = 2m + 5s$

Got It?

For a Saturday night show, a local band is paid $200 plus $5 for each ticket sold.

Write an equation that shows the relationship between the number of tickets sold and the total pay that the band receives.

Use the graph to complete the table of values for x and y.

x					
y					

Circle each equation that represents the relationship between x and y.

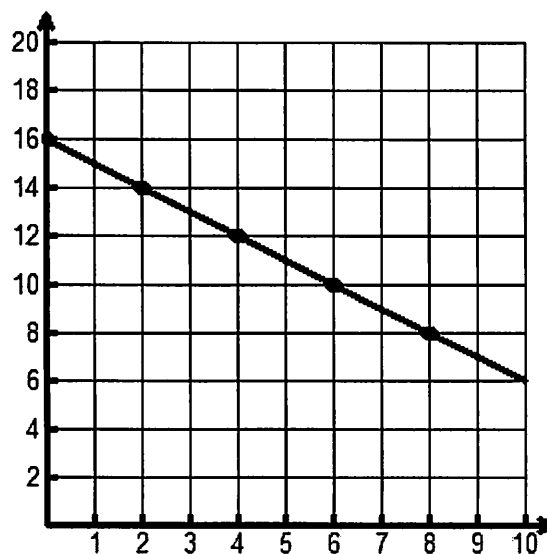$x + y = 16$ $y = 16 + x$

$y + x = 16$ $y - x = 16$

$y = x - 16$ $y = 16 - x$

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## Multiple Representations of Functions

Real-World Link

It costs $3 to bowl a game and $5 to rent shoes.

Complete the table and then write an equation that shows the relationship between the number of games bowled and the total cost.

Number of Games	Cost for Games and Shoe Rental	Total Cost
1	3(1) + 5	8
2	3(2) + 5	11
3	3(3) + 5	14
4	3(4) + 5	17
5	3(5) + 5	20

2. Students are selling wreaths for a fundraiser. Each wreath sells for $16.

Fundraiser					
Wreaths Sold	5	10	15	20	25
Dollars Made	80	160	240	320	400
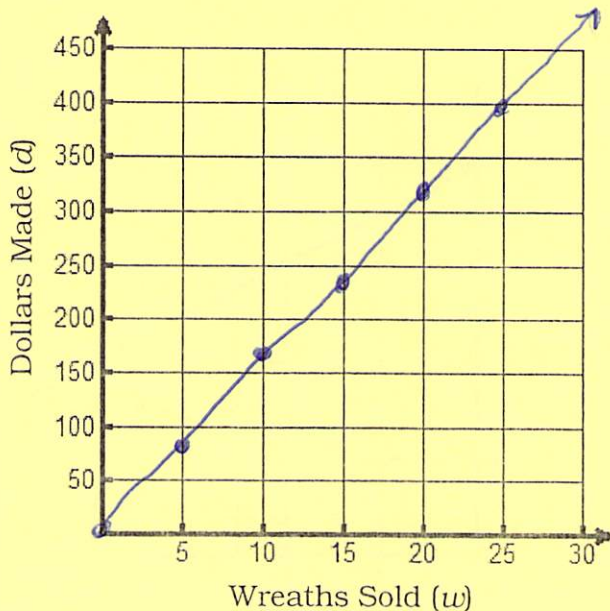
Write an **equation** that relates the wreaths sold (w) and dollars made (d).

$$w \cdot 16 = d$$

How many wreaths must the students sell to make $640?

$$w \cdot 16 = 640$$
$$\div 16 \quad \div 16$$
$$w = 40$$

40 wreaths

Example:

1. A movie rental club charges a one-time fee of $25 to join and $2 for every movie rented. Which equation represents the cost of joining the club and renting any number of movies?

(1) $C = 2 + 25m$

(3) $C = 25 + 2m$

(2) $C = 2m$

(4) $C = 25m$

$C = 25 + 2m$

2. A math teacher has multiple choice questions and short answer questions. Each multiple choice question is worth 2 points and each short answer is worth 5 points. Which equation represents the total points for the test?

(1) $P = 7ms$

(3) $P = 2 + 5$

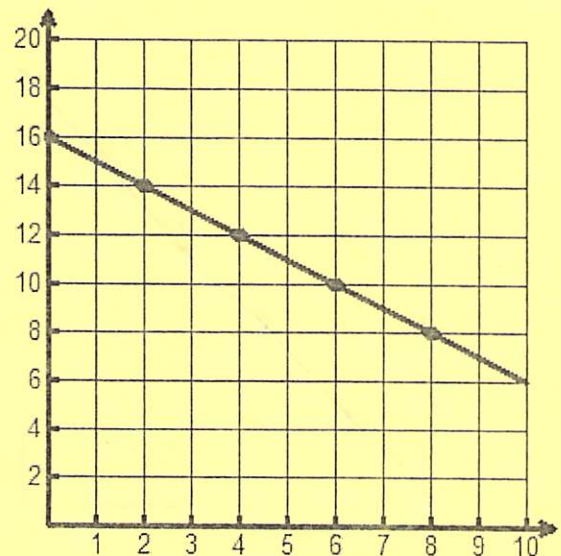(2) $P = 2s + 5m$

(4) $P = 2m + 5s$

$P = 2m + 5s$

Got It?

For a Saturday night show, a local band is paid $200 plus $5 for each ticket sold.

Write an equation that shows the relationship between the number of tickets sold and the total pay that the band receives.

$P = 200 + 5t$

Use the graph to complete the table of values for x and y.

x	0	2	4	6	8
y	16	14	12	10	8

Circle each equation that represents the relationship between x and y.

$x + y = 16$

$y = 16 + x$

$y + x = 16$

$y - x = 16$

$y = x - 16$

$y = 16 - x$