

Relationship Between Variables

Study the example showing the relationship between variables with a table and an equation. Then solve problems 1–7.

Example

A music store sells sets of headphones for \$6. The table shows the relationship between the number of headphones the store sells, h , and the amount of money, m , the store earns from headphone sales. Write an equation that represents the amount of money the store earns from headphone sales.

Number of Headphones, h	0	1	2	3	4	5
Amount of Money, m (\$)	0	6	12	18	24	30

Use the table to write an equation.

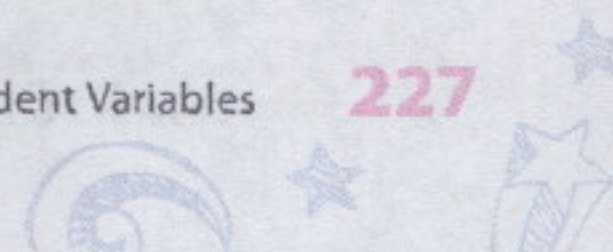
amount of money	equals	price of each set of headphones	times	number of headphones
m	=	6	•	h

The equation is $m = 6h$.

- 1 Which is the dependent variable and which is the independent variable in the example? Explain.

- 2 How much money does the store earn if the store sells 8 sets of headphones? Explain how to use the equation to find the answer.

- 3 One week, the store earned \$60 in headphone sales. How many sets of headphones did the store sell? Can you use the equation to find the answer? Explain.



Solve.

Use the example problem to solve problems 4–7.

In the example, you explored how to represent a relationship with a table and an equation.

Number of Headphones, h	0	1	2	3	4	5
Amount of Money, m (\$)	0	6	12	18	24	30

$$m = 6h$$

You can also represent the same situation with a graph.

- 4 Think of h and m as x - and y -coordinates, and use the values from the table to write ordered pairs (h, m) .

- 5 Graph the ordered pairs. How do they show solutions to the equation $m = 6h$?

- 6 Which point represents the amount of money the store earns if the store sells 4 headphones? How do you know?

- 7 Sonia paid \$18 for headphones. How many sets of headphones did she buy? Explain how to use the graph to find the answer.

