



# Finding This Percent of That

Let's solve percentage problems like a pro.

## 15.1

## Math Talk: Multiply and Divide

Find the value of each expression mentally.

- $70 \div 100$

- $35 \cdot \frac{1}{100}$

- $(0.35) \cdot 100$

- $\frac{105}{100}$



A school held several evening activities last month—a music concert, a basketball game, literacy night, and a drama play. The music concert was attended by 250 people.

1. Attendance at the basketball game was 30% of attendance at the concert.
2. Attendance at literacy night was 44% of attendance at the concert.
3. Attendance at the drama play was 102% of attendance at the concert.

How many people came to each of these activities? Show your reasoning.



### Are you ready for more?

6% of the people who attended the music concert also attended the basketball game.

What percentage of the people who attended the basketball game also attended the music concert?

## 15.3

## Some Percentage for Charity

- Three music artists plan to donate a percentage of the money they make from selling merchandise.

Complete the tables to show how much each artist would donate for different amounts of merchandise sales.



- Artist A plans to donate 1% of the amount of merchandise sales.

sales (\$)	1	40	100	3,200	$x$
donation (\$)					

- Artist B plans to donate 15% of the amount of merchandise sales.

sales (\$)	1	40	100	3,200	$x$
donation (\$)					

- Artist C plans to donate 67% of the amount of merchandise sales.

sales (\$)	1	40	100	3,200	$x$
donation (\$)					

- Another artist plans to donate  $P\%$  of the money made from selling merchandise. In the table, write an expression for the amount of donation for each sales amount.

sales (\$)	1	40	100	3,200	$x$
donation (\$)					

## Lesson 15 Summary

Suppose a business donates 1% of its profits to charity each year. How much would it donate if it made \$7,500 in profits?

To find 1% of 7,500, we can multiply 7,500 by  $\frac{1}{100}$  or 0.01.

profits (dollars)	percentage
7,500	100
75	1

$\cdot \frac{1}{100}$  (curved arrow from 7,500 to 75)  
 $\cdot \frac{1}{100}$  (curved arrow from 100 to 1)

$\frac{1}{100} \cdot 7,500 = 75$ , so the business would donate \$75.

What if the business donates 6% of its profits to charity? Because 6% of 7,500 is 6 times as much as 1% of 7,500, we can calculate  $6 \cdot \frac{1}{100} \cdot 7,500$  or  $\frac{6}{100} \cdot 7,500$ .

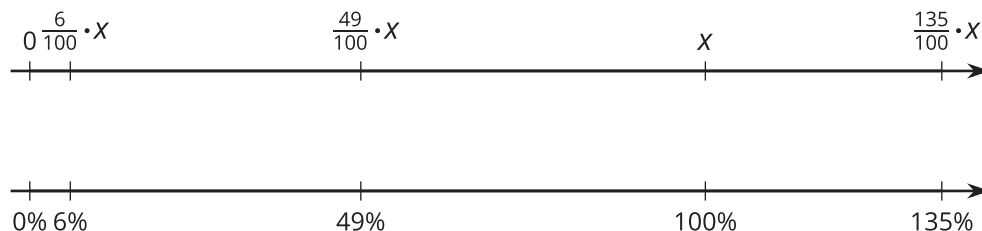
profits (dollars)	percentage
7,500	100
75	1
450	6

$\cdot \frac{1}{100}$  (curved arrow from 7,500 to 75)  
 $\cdot 6$  (curved arrow from 75 to 450)  
 $\cdot \frac{1}{100}$  (curved arrow from 100 to 1)  
 $\cdot 6$  (curved arrow from 1 to 6)

$\frac{6}{100} \cdot 7,500 = 450$ , so the business would donate \$450.

The same reasoning can help us find 1%, 6%, and other percentages of another number:

- To find 1% of a number, we can multiply that number by  $\frac{1}{100}$  or 0.01.
- To find 6% of a number, we can multiply the number by  $\frac{6}{100}$  or 0.06.
- To find 49% of a number, we can multiply the number by  $\frac{49}{100}$  or 0.49.
- To find 135% of a number, we can multiply the number by  $\frac{135}{100}$  or 1.35.



In general, to find  $P\%$  of any number,  $x$ , we can calculate:  $\frac{P}{100} \cdot x$ .

