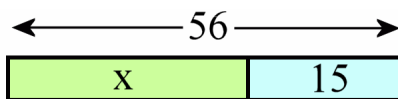


Bar Models in Addition and Subtraction

Think of this **bar model** as a long board, cut into two pieces. It is 56 units long in total (you can think of inches, for example), and the two parts are 15 and x units long.



From the bar model, we can write TWO addition and TWO subtraction sentences—a *fact family*.

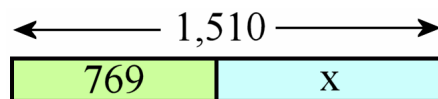
$x + 15 = 56$	$56 - x = 15$
$15 + x = 56$	$56 - 15 = x$

The x stands for a number, too. We just do not know what it is yet. It is an *unknown*.

From this bar model, we can write a **missing addend** problem.

It means that a number to be added is “missing” or unknown.

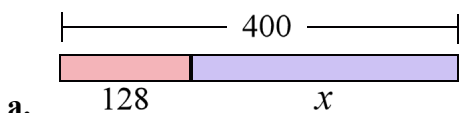
We can solve it by **subtracting** the one part (769) from the total (1,510).



$$769 + x = 1,510$$

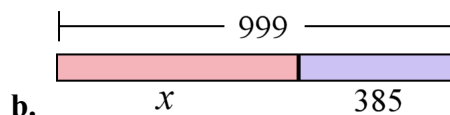
$$x = 1,510 - 769 = 741$$

1. Write a missing addend problem that matches the bar model. Then solve it by subtracting.



$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$



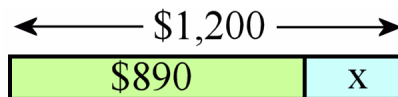
$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

c. A car costs \$1,200. Dad has \$890.
How much more does he need to buy it?

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$



d. The school has 547 students, of which
265 are girls. How many are boys?

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$x = \underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

