

27. Simple Algebra with Bar Models

Tom loves to collect marbles. He has red and blue marbles. He has 8 more blue marbles than red marbles. He has 24 marbles total. How many of each marble does he have?

Tom ama coleccionar mármoles. Tiene mármoles rojos y azules. Tiene 8 mármoles más azules que mármoles rojos. Tiene 24 total de mármoles. ¿Cuántos de cada mármol tiene?

What is my unknown?

The number of red marbles. So we will call the number of red marbles I have x . I know that I have 8 more blue marbles than red marbles, so I can say I have $x + 8$ blue marbles. My total number of marbles, is 24. So I know that adding my red marbles and blue marbles, should give me 24.

red marbles = x total = 24

blue marbles = $x + 8$

$$x + (x + 8) = 24$$

$$2x + 8 = 24$$

At this point, I can draw a simple bar model.

$2x + 8$
24

We can then see, that $2x$ must equal 16...

$2x$	8
16	8

It should now be aparent, that $x = 8$

x	x	8
8	8	8

So tom has

red marbles = $x = 8$

blue marbels = $x + 8 = 8 + 8 = 16$

Angela keeps pinching her friends. She pinches Carmela a lot. She pinches Elizabeth as many times as Carmela, and then 5 more times. In total, she pinched them 33 times. How many times did she pinch each of them?

Angela sigue pellizcando a sus amigos. Pellizca a Carmela mucho. Pellizca a Elizabeth tan muchas veces como Carmela, y luego más 5 veces. En total, los pellizcó 33 veces. ¿Cuántas veces pellizcó a cada uno de ellos?

Charlie likes to build things with his Legos. On Saturday he built some robots. On Sunday he built 2 more robots than he did on Saturday. On Monday, he built 4 more robots than he did on Saturday. In total he built 24 robots. How many did he build on each day?

A Charlie le gusta construir cosas con su Legos. En sábado construyó algunos robots. En domingo construyó más 2 robots que hizo en sábado. En lunes, construyó más 4 robots que hizo en sábado. En total construyó 24 robots. ¿Cuántos añadió cada día?