From One Part to the Whole

RP04-V1 · storyboard · RP04 From one part to the whole. Read each picture with its sentences.

Picture 1

dentists say yes. How many dentists are there?

$11 - 9 = 2$ say yes in every 11

$\text{yes} : \text{all} = 2 : 11$ the part you know, with the whole

$18 \div 2 = 9$ groups

$\boxed{9 \times 11 = 99}$ dentists

$\frac{2}{11}\, x = 18 \;\Rightarrow\; x = 99$ or an equation

Check: $99 - 18 = 81, \quad 81 : 99 = 9 : 11$ ✓

1. 9 out of every 11 dentists say no to sweets, and the rest say yes.
2. 18 dentists say yes.
3. How many dentists are there?
4. In every group of 11, 11 minus 9 is 2 dentists who say yes.
5. Yes to all is 2 to 11.
6. This ratio links the dentists you know about with all the dentists.
7. 18 divided by 2 is 9 groups.
8. 9 groups of 11 is 99 dentists.
9. Or with an equation: two elevenths of all the dentists is 18, so there are 99.
10. Check: 99 minus 18 is 81 who say no, and 81 to 99 is 9 to 11.

Picture 2

Trap 18 say yes

$\times\ 18 \div 9 \times 11 = 22$

$\checkmark\ \ 18 \div 2 \times 11 = 99$

11. Watch for the trap: matching the number to the wrong part.
12. The 18 dentists say yes, so 18 goes with the 2, not the 9.

Picture 3

Two-thirds of the people in a village voted. 634 did not vote. How many people live in the village?

$1 - \frac{2}{3} = \frac{1}{3}$ did not vote

$\frac{1}{3}$ of the village $= 634$ the part you know

$\boxed{634 \times 3 = 1902}$ people

13. Two thirds of the people in a village voted.
14. 634 did not vote.
15. How many people live there?
16. One third of the village did not vote.
17. Those 634 people are the part you know: one third of the village.
18. 634 times 3 is one thousand nine hundred and two people.

Picture 4

Trap $\frac{2}{11}$ of the dentists $= 18$

$\times \ \frac{2}{11} \times 18$

✓ $18 \div 2 \times 11 = 99$

19. And watch for this trap: taking a fraction of the part.
20. Two elevenths is a fraction of all the dentists, not of the 18.