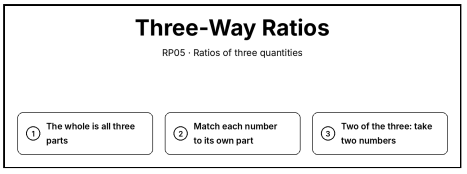
Three-Way Ratios: teacher script

RP05-V1 · RP05 Ratios of three quantities · teachers only. Without a screen, read each Say line and draw each Draw step on the board. About 96 seconds as a video.

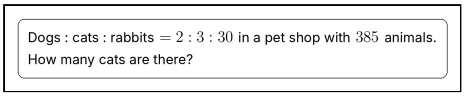
01



Say. Three-way ratios. The whole is all three parts added together. Match each number to its own part. And for two of the three, take the two numbers you need.

Draw. Write the title “Three-Way Ratios” and the steps: 1. The whole is all three parts; 2. Match each number to its own part; 3. Two of the three: take two numbers.

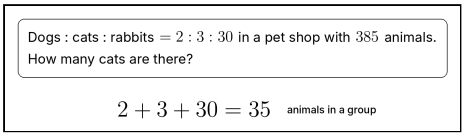
02



Say. In a pet shop, dogs to cats to rabbits is 2 to 3 to 30, and there are 385 animals. How many cats are there?

Draw. Clear the board. Write “Dogs : cats : rabbits = 2 : 3 : 30 in a pet shop with 385 animals. How many cats are there?” in a box at the top.

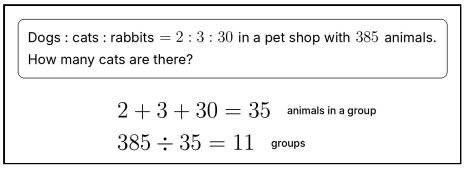
03



Say. Add all three parts: 2 plus 3 plus 30 is 35 animals in a group.

Draw. Write 2 + 3 + 30 = 35 on the next line. Beside it, write “animals in a group”.

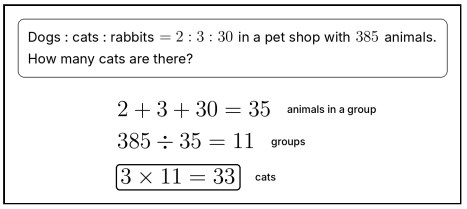
04



Say. 385 divided by 35 is 11, so there are 11 groups.

Draw. Write 385 ÷ 35 = 11 on the next line. Beside it, write “groups”.

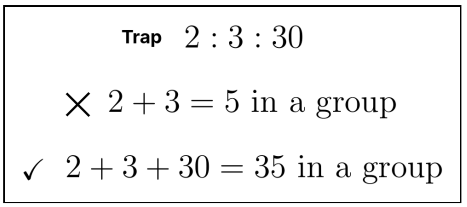
05



Say. Each group has 3 cats: 3 times 11 is 33 cats.

Draw. Write 3 × 11 = 33 and box it on the next line. Beside it, write “cats”.

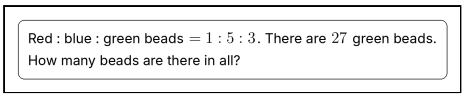
06



Say. Watch for the trap: using only two parts for the whole. A group has all three: 35 animals.

Draw. Clear the board. Write “Trap” and 2 : 3 : 30. Below, write 2 + 3 = 5 in a group and cross it out ×. Then write 2 + 3 + 30 = 35 in a group with a tick ✓.

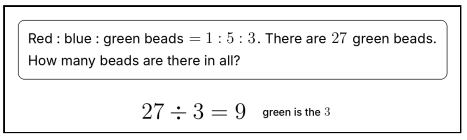
07



Say. Red to blue to green beads is 1 to 5 to 3. There are 27 green beads. How many beads are there in all?

Draw. Clear the board. Write “Red : blue : green beads = 1 : 5 : 3. There are 27 green beads. How many beads are there in all?” in a box at the top.

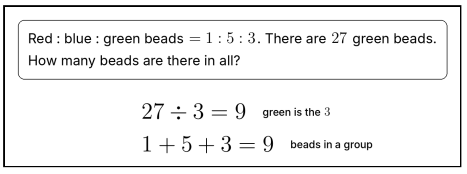
08



Say. The 27 green beads go with the 3, the green number. 27 divided by 3 is 9 groups.

Draw. Write 27 ÷ 3 = 9 on the next line. Beside it, write “green is the 3”.

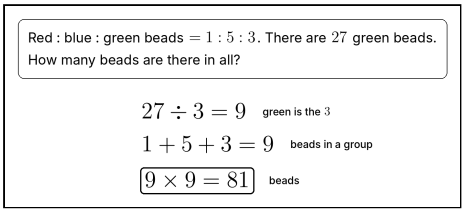
09



Say. Each group has 1 plus 5 plus 3, which is 9 beads.

Draw. Write 1 + 5 + 3 = 9 on the next line. Beside it, write “beads in a group”.

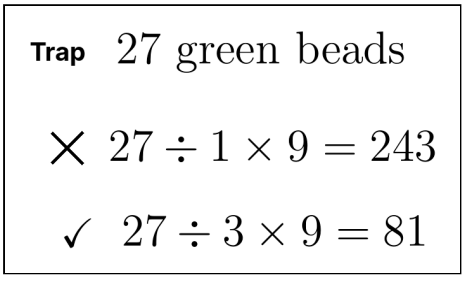
10



Say. 9 groups of 9 is 81 beads: 9 red, 45 blue and 27 green.

Draw. Write 9 × 9 = 81 and box it on the next line. Beside it, write “beads”.

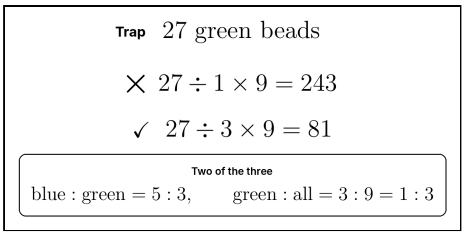
11



Say. Watch for the trap: matching the number to the wrong part. 27 is the green beads, so divide by the green number, 3.

Draw. Clear the board. Write “Trap” and 27 green beads. Below, write 27 ÷ 1 × 9 = 243 and cross it out ×. Then write 27 ÷ 3 × 9 = 81 with a tick ✓.

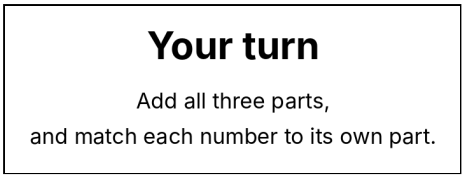
12



Say. For two of the three, take the two numbers you need. Blue to green is 5 to 3, and green to all the beads is 3 to 9, or 1 to 3.

Draw. Write the rule in a box: blue : green = 5 : 3, green : all = 3 : 9 = 1 : 3.

13



Say. Now it is your turn. Add all three parts, and match each number to its own part.

Draw. Point to today’s activity: Add all three parts, and match each number to its own part.