LESSON MAKER PRO

Ratio Table Quest

Build matching ratios and find the whole.

GRADE 6 · MA.6.AR.3.3

MA.6.AR.3.3 "Extend previous understanding of fractions and numerical patterns to generate or complete a two- or three-column table to display equivalent part-to-part ratios and part-to-part-to-whole ratios."

NAME _____ DATE _____

KEEP RATIOS MATCHED

A ratio table lists pairs or groups that are multiplied by the same number. To make a part-to-part-to-whole ratio, list each part and then add the parts for the whole. Every number in one row must be multiplied or divided by the same factor.

WORKED EXAMPLE

The ratio of fruit to yogurt in a smoothie is 7:11. Write an equivalent fruit:yogurt:whole ratio when there are 21 fruit parts.

1. Add the parts: 7 + 11 = 18.
2. Find the scale factor: 21 / 7 = 3.
3. Multiply the yogurt parts: 11 x 3 = 33.
4. Add for the whole: 21 + 33 = 54.

Answer: 21:33:54

PRACTICE 6 problems

1 Complete this two-column ratio table. Yellow beads: 2, 4, ___, 10. Purple beads: 5, 10, 15, ___.

ANSWER _____

2 Complete the three-column ratio table. Each ordered group is wins, losses, total: (5, 1, 6), (___, 2, ___), (25, ___, ___).

ANSWER _____

3 A ratio table starts with 4:5. Write one row made by multiplying both values by 2 and one row made by multiplying both values by 4.

ANSWER _____

4 A paint mix uses 4 cups of blue paint and 2 cups of white paint. Write the blue:white:whole ratio.

ANSWER _____

5 In a ratio table, 5:2 is equivalent to x:14. Find x.

ANSWER _____

6 A ratio table shows bicycles:scooters = 1:5. One row has 30 scooters. How many bicycles and how many total vehicles are in that row?

ANSWER _____

APPLY IT Show your work

1 A game club makes prize-token bundles that keep the same gold:silver:total ratio. Use the table to complete the second row. How many gold tokens and total tokens are in that bundle?

GAME TOKEN BUNDLES

Gold tokens	Silver tokens	Total tokens
4	2	6
__	10	__

ANSWER _____

2 For a skate park event, the snack table has 6 water bottles for every 5 fruit snacks. If there are 30 water bottles, how many fruit snacks are there and how many items are there altogether?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A podcast club sorts episodes into music, sports, and science topics in the ratio 2:5:6. The club has 52 episodes. How many episodes are in each topic? Explain how you used the total number of ratio parts.

WORK SPACE AND ANSWER

ANSWER KEY

Ratio Table Quest

GRADE 6 · MA.6.AR.3.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Complete this two-column ratio table. Yellow beads: 2, 4, ___, 10. Purple beads: 5, 10, 15, ___.	**6; 25**
2	Complete the three-column ratio table. Each ordered group is wins, losses, total: (5, 1, 6), (___, 2, ___), (25, ___, ___).	**(10, 2, 12); (25, 5, 30)**
3	A ratio table starts with 4:5. Write one row made by multiplying both values by 2 and one row made by multiplying both values by 4.	**8:10; 16:20**
4	A paint mix uses 4 cups of blue paint and 2 cups of white paint. Write the blue:white:whole ratio.	**4:2:6**
5	In a ratio table, 5:2 is equivalent to x:14. Find x.	**35**
6	A ratio table shows bicycles:scooters = 1:5. One row has 30 scooters. How many bicycles and how many total vehicles are in that row?	**6 bicycles; 36 total vehicles**

PART 2 · APPLY IT

1. **20 gold tokens; 30 total tokens** The silver tokens increase from 2 to 10, so the scale factor is 5. Multiply 4 and 6 by 5.
2. **25 fruit snacks; 55 items altogether** The water bottles increase from 6 to 30, so multiply both parts by 5. Add 30 and 25 to find the whole.

CHALLENGE

8 music episodes, 20 sports episodes, and 24 science episodes. There are 13 total ratio parts, and 52 / 13 = 4, so each ratio part is multiplied by 4.

Accept equivalent ratio rows when the order of the parts stays the same. For the challenge, accept any clear explanation that identifies 13 total parts and a scale factor of 4.