LESSON MAKER PRO

Rate Match Mission

Use equal ratios to solve proportion problems.

GRADE 7 · MA.7.AR.3.2

MA.7.AR.3.2 "Apply previous understanding of ratios to solve real-world problems involving proportions."

NAME _____ DATE _____

BUILD EQUAL RATIOS

A proportion shows that two ratios are equal. Find a unit rate by dividing, then multiply by the new amount. You can also write two equal fractions and solve for x.

WORKED EXAMPLE

5 notebooks cost $15. How much do 8 notebooks cost at the same rate?

1. Find the cost per notebook: 15 / 5 = 3 dollars.
2. Multiply for 8 notebooks: 8 x 3 = 24 dollars.

Answer: $24

PRACTICE 6 problems

1 Solve the proportion: 4/7 = x/21

ANSWER _____

2 Solve the proportion: 9/27 = x/18

ANSWER _____

3 11 bracelets cost $22. How much do 14 bracelets cost at the same rate?

ANSWER _____

4 On a map, 1 centimeter represents 30 kilometers. How many kilometers does 7 centimeters represent?

ANSWER _____

5 16 arcade tokens cost $64. How much do 10 tokens cost at the same rate?

ANSWER _____

6 A printer makes 13 flyers in 26 seconds. At the same rate, how many seconds will it take to make 39 flyers?

ANSWER _____

APPLY IT Show your work

1 At a school gaming tournament, 36 players form 4 equal teams. If 63 players sign up for the next tournament, how many equal teams of the same size can be formed?

WORK SPACE

ANSWER _____

2 A video editor uses 18 minutes of footage to make 6 highlight clips. At the same rate, how many minutes of footage are needed to make 14 highlight clips?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A school store sells 7 sticker sheets for $14. Maya has $31. How many sticker sheets can she buy, and how much money will she have left? Explain how you know she cannot buy one more sheet.

WORK SPACE AND ANSWER

ANSWER KEY

Rate Match Mission

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Solve the proportion: 4/7 = x/21	**x = 12**
2	Solve the proportion: 9/27 = x/18	**x=6**
3	11 bracelets cost $22. How much do 14 bracelets cost at the same rate?	**$28**
4	On a map, 1 centimeter represents 30 kilometers. How many kilometers does 7 centimeters represent?	**210 kilometers**
5	16 arcade tokens cost $64. How much do 10 tokens cost at the same rate?	**$40**
6	A printer makes 13 flyers in 26 seconds. At the same rate, how many seconds will it take to make 39 flyers?	**78 seconds**

PART 2 · APPLY IT

1. **7 teams** Each team has 36 / 4 = 9 players. Then 63 / 9 = 7 teams.
2. **42 minutes** Each clip uses 18 / 6 = 3 minutes of footage. Then 14 x 3 = 42 minutes.

CHALLENGE

Maya can buy 15 sticker sheets and have $1 left. Each sheet costs $2, so 16 sheets would cost $32, which is more than $31.

Accept correct unit-rate methods or equivalent proportion setups. For the challenge, accept 15 sticker sheets and $1 left only when the reasoning shows that 16 sheets cost $32.