LESSON MAKER PRO

Scale It Up

Use ratios, conversions, and percents to find missing values.

GRADE 7 · 7.CE.2

7.CE.2 "The student will solve problems, including those in context, involving proportional relationships. Given a proportional relationship between two quantities, create and use a ratio table to determine missing values..."

NAME _____ DATE _____

THE BIG IDEA

Proportional quantities change by the same scale factor. Use a ratio table or write a/b = c/x, then multiply or divide to find x. For a percent, change the percent to a fraction or decimal and multiply by the whole, and use the given conversion factor for units.

WORKED EXAMPLE

6 tickets cost $9. At the same rate, what do 14 tickets cost?

1. Find the cost of 1 ticket: $9 / 6 = $1.50.
2. Multiply by 14 tickets: 14 x $1.50 = $21.

Answer: $21

PRACTICE 6 problems

1 A printer makes 5 posters in 12 minutes. Use a ratio table to find how many posters it makes in 36 minutes.

ANSWER _____

2 Solve the proportion: 8/15 = x/45.

ANSWER _____

3 Given that 1 yard = 3 feet, convert 8 yards to feet.

ANSWER _____

4 Find 25% of 68.

ANSWER _____

5 Find 15% of 80.

ANSWER _____

6 A 16-ounce bottle costs $4. At the same rate, how much would a 28-ounce bottle cost?

ANSWER _____

APPLY IT Show your work

1 The music club sells 18 stickers for $12. At the same price per sticker, how much would 45 stickers cost?

WORK SPACE

ANSWER _____

2 A gaming tournament lasts 150 minutes. A break takes 12% of the tournament time. How many minutes is the break?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A fun run is 2.4 kilometers long. Given that 1 kilometer = 1,000 meters, 35% of the route is shaded. How many meters of the route are shaded? Explain your reasoning.

_____

_____

ANSWER KEY

Scale It Up

GRADE 7 · 7.CE.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A printer makes 5 posters in 12 minutes. Use a ratio table to find how many posters it makes in 36 minutes.	**15 posters**
2	Solve the proportion: 8/15 = x/45.	**x = 24**
3	Given that 1 yard = 3 feet, convert 8 yards to feet.	**24 feet**
4	Find 25% of 68.	**17**
5	Find 15% of 80.	**12**
6	A 16-ounce bottle costs $4. At the same rate, how much would a 28-ounce bottle cost?	**$7**

PART 2 · APPLY IT

1. **$30** Write 12/18 = x/45. Simplify the rate to $2/3 per sticker, then multiply 45 x 2/3.
2. **18 minutes** Find 10% of 150, which is 15, and find 2%, which is 3. Add 15 + 3.

CHALLENGE

840 meters. Convert 2.4 kilometers to 2,400 meters, then find 35% of 2,400: 0.35 x 2,400 = 840.

Accept equivalent proportions, ratio tables, and correct unit-rate methods. For percent problems, accept fraction, decimal, benchmark-percent, or equation methods when the final answer is correct.