LESSON MAKER PRO

Rate Rescue

Plan, solve, and check with unit rates.

GRADE 8 · 8.MP

8.MP "Display perseverance and patience in problem-solving. Demonstrate skills and strategies needed to succeed in mathematics, including critical thinking, reasoning, and effective collaboration and expression. Seek help and apply feedback..."

NAME _____ DATE _____

USE A UNIT RATE

When a rate stays the same, find the amount for 1 unit first. Then multiply, and check whether your answer makes sense for a larger or smaller amount.

WORKED EXAMPLE

The art club buys 11 markers for $55. At the same price, what do 13 markers cost?

1. Find one-marker cost: 55 / 11 = 5.
2. Multiply: 13 x 5 = 65.
3. Check: 13 is more than 11, so the cost should be more than $55.

Answer: $65

PRACTICE 5 problems

1 A school store sells 3 sticker packs for $18. At the same rate, what do 8 packs cost? Plan, solve, and check.

ANSWER _____

2 A runner completes 28 laps in 4 minutes. At the same rate, how many laps in 9 minutes? Plan, solve, and check.

ANSWER _____

3 A phone plan provides 7 GB for $21. At the same rate, what is the cost of 12 GB? Plan, solve, and check.

ANSWER _____

4 A concert club prints 9 shirts for $54. At the same rate, what do 3 shirts cost? Plan, solve, and check.

ANSWER _____

5 A snack bar fills 10 jars for $80. At the same rate, what do 14 jars cost? Plan, solve, and check.

ANSWER _____

APPLY IT Show your work

1 A music app downloads 14 songs in 35 minutes. At the same speed, how many songs can it download in 90 minutes? Show a plan and a check.

WORK SPACE

ANSWER _____

2 A student uploads 16 photos in 24 seconds. At the same speed, how many seconds will 50 photos take? Show a plan and a check.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A skate park pass costs $32 for 8 visits. Sam has $93. At the same price per visit, what is the greatest number of visits Sam can buy, and how much money is left? Explain why Sam cannot buy one more visit.

WORK SPACE AND ANSWER

ANSWER KEY

Rate Rescue

GRADE 8 · 8.MP

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A school store sells 3 sticker packs for $18. At the same rate, what do 8 packs cost? Plan, solve, and check.	**$48**
2	A runner completes 28 laps in 4 minutes. At the same rate, how many laps in 9 minutes? Plan, solve, and check.	**63 laps**
3	A phone plan provides 7 GB for $21. At the same rate, what is the cost of 12 GB? Plan, solve, and check.	**$36**
4	A concert club prints 9 shirts for $54. At the same rate, what do 3 shirts cost? Plan, solve, and check.	**$18**
5	A snack bar fills 10 jars for $80. At the same rate, what do 14 jars cost? Plan, solve, and check.	**$112**

PART 2 · APPLY IT

1. **36 songs** Find the unit rate: 14 / 35 = 2/5 song per minute. Multiply 90 x 2/5 = 36; a longer time should give more songs.
2. **75 seconds** Find seconds per photo: 24 / 16 = 3/2 seconds. Multiply 50 x 3/2 = 75; more photos should take more time.

CHALLENGE

23 visits, $1 left. One visit costs $4, and 24 visits would cost $96, which is more than $93.

Accept equivalent unit-rate methods and reasonable written checks. For the challenge, accept any clear explanation that 24 visits cost more than Sam has.