LESSON MAKER PRO

Units Tell Stories

Use units to make quantities meaningful.

HIGH SCHOOL · HSN-Q.A

CCSS.Math.Content.HSN-Q.A "Reason quantitatively and use units to solve problems."

NAME _____ DATE _____

TRACK THE UNITS

Keep the units in every calculation. Divide to find a rate, and use conversion factors to change units. Your final answer should include a unit that fits the question.

WORKED EXAMPLE

A runner travels 20 kilometers in 4 hours. What is the runner's average speed in kilometers per hour?

1. Speed = distance / time.
2. 20 kilometers / 4 hours = 5 kilometers per hour.
3. The kilometers and hours tell what the rate means.

Answer: 5 km/h

PRACTICE 6 problems

1 Convert 90 minutes to hours.

ANSWER _____

2 Convert 72 inches to feet.

ANSWER _____

3 Eight tickets cost $56. What is the cost per ticket?

ANSWER _____

4 A rectangular floor is 14 feet long and 8 feet wide. What is its area?

ANSWER _____

5 A drink dispenser holds 2 gallons. If 1 gallon equals 8 cups, how many cups does it hold?

ANSWER _____

6 Convert 0.7 kilograms to grams.

ANSWER _____

APPLY IT Show your work

1 A gaming club has $250 to buy controllers that cost $27 each. The club buys 8 controllers. How much money remains?

WORK SPACE

ANSWER _____

2 A student downloads 8 video episodes. Each episode uses 3/8 gigabyte of data. How many gigabytes of data does the download use?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A shuttle travels 96 miles in 1 1/2 hours. At the same speed, how far will it travel in 30 minutes? Show how you convert the time units.

_____

_____

Units Tell Stories

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Convert 90 minutes to hours.	**1.5 hours**
2	Convert 72 inches to feet.	**6 feet**
3	Eight tickets cost $56. What is the cost per ticket?	**$7 per ticket**
4	A rectangular floor is 14 feet long and 8 feet wide. What is its area?	**112 square feet**
5	A drink dispenser holds 2 gallons. If 1 gallon equals 8 cups, how many cups does it hold?	**16 cups**
6	Convert 0.7 kilograms to grams.	**700 grams**

PART 2 · APPLY IT

1. **$34** Multiply 8 controllers by $27 per controller to get $216. Subtract $216 from $250.
2. **3 gigabytes** Multiply 8 episodes by 3/8 gigabyte per episode. The episodes cancel, leaving 3 gigabytes.

CHALLENGE

32 miles; 1 1/2 hours = 3/2 hours, so the speed is 96 / (3/2) = 64 miles per hour. Since 30 minutes = 1/2 hour, the distance is 64 x 1/2 = 32 miles.

Accept equivalent forms such as 1.5 hours or 3/2 hours. Require units on final answers and accept correct unit-conversion work.