LESSON MAKER PRO

Unit Bridge Quest

Use conversion factors to move between measurement systems.

GRADE 7 · MA.7.AR.3.3

MA.7.AR.3.3 "Solve mathematical and real-world problems involving the conversion of units across different measurement systems."

NAME _____ DATE _____

CROSS-SYSTEM CONVERSIONS

A conversion factor tells how units in one system match units in another system. Multiply by a factor that cancels the unit you have and leaves the unit you need. Round only when the problem tells you to round.

WORKED EXAMPLE

Convert 5 inches to centimeters.
Use 1 inch = 2.54 centimeters.

1. Start with 5 inches.
2. Multiply by 2.54 centimeters for each inch.
3. 5 x 2.54 = 12.70.

Answer: 12.7 centimeters

PRACTICE 6 problems

1 Convert 8 inches to centimeters. Use 1 inch = 2.54 centimeters.

ANSWER _____

2 Convert 25.4 centimeters to inches. Use 1 inch = 2.54 centimeters.

ANSWER _____

3 Convert 1.2192 meters to feet. Use 1 foot = 0.3048 meter.

ANSWER _____

4 Convert 1.8288 meters to yards. Use 1 yard = 0.9144 meter.

ANSWER _____

5 Convert 3.218688 kilometers to miles. Use 1 mile = 1.609344 kilometers.

ANSWER _____

6 Convert 0.90718474 kilograms to pounds. Use 1 pound = 0.45359237 kilogram.

ANSWER _____

APPLY IT Show your work

1 A gaming club needs a 15-foot cable for a tournament setup. How many meters of cable is that, rounded to the nearest tenth? Use 1 foot = 0.3048 meter.

WORK SPACE

ANSWER _____

2 During soccer practice, a player kicks a ball 22 yards. How far is this in meters, rounded to the nearest tenth? Use 1 yard = 0.9144 meter.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A fitness app records a hike of 1.25 miles, followed by 900 meters. What is the total distance in kilometers, rounded to the nearest hundredth? Use 1 mile = 1.609344 kilometers.

WORK SPACE AND ANSWER

ANSWER KEY

Unit Bridge Quest

GRADE 7 · MA.7.AR.3.3

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Convert 8 inches to centimeters. Use 1 inch = 2.54 centimeters.	**20.32 centimeters**
2	Convert 25.4 centimeters to inches. Use 1 inch = 2.54 centimeters.	**10 inches**
3	Convert 1.2192 meters to feet. Use 1 foot = 0.3048 meter.	**4 feet**
4	Convert 1.8288 meters to yards. Use 1 yard = 0.9144 meter.	**2 yards**
5	Convert 3.218688 kilometers to miles. Use 1 mile = 1.609344 kilometers.	**2 miles**
6	Convert 0.90718474 kilograms to pounds. Use 1 pound = 0.45359237 kilogram.	**2 pounds**

PART 2 · APPLY IT

1. **4.6 meters** Multiply 15 by 0.3048 to get 4.572 meters. Round 4.572 to the nearest tenth.
2. **20.1 meters** Multiply 22 by 0.9144 to get 20.1168 meters. Round 20.1168 to the nearest tenth.

CHALLENGE

2.91 kilometers

Accept equivalent unit names and correct trailing-zero forms, such as 12.70 centimeters for 12.7 centimeters. For rounding items, accept only the requested rounded value.