# REVIEW: Converting Between Systems

Name _____

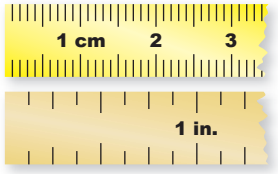
## Key Concept and Vocabulary

**Length**
1 in. ≈ 2.54 cm
1 m ≈ 3.28 ft
1 mi ≈ 1.61 km

**Weight (Mass)**
1 kg ≈ 2.2 lb
1 oz ≈ 28.3 g

**Capacity**
1 qt ≈ 0.95 L
1 gal ≈ 3.79 L
1 c ≈ 237 mL
1 gal ≈ 3785 $cm^3$
1 $m^3$ ≈ 264 gal


## Visual Model




1 in. ≈ 2.54 cm

## Skill Examples

1. $7 \text{ m} \approx 7 \text{ m} \cdot \frac{3.28 \text{ ft}}{1 \text{ m}} = 22.96 \text{ ft}$
2. $20 \text{ L} \approx 20 \text{ L} \cdot \frac{1 \text{ gal}}{3.79 \text{ L}} \approx 5.28 \text{ gal}$
3. $8 \text{ oz} \approx 8 \text{ oz} \cdot \frac{28.3 \text{ g}}{1 \text{ oz}} = 226.4 \text{ g}$
4. $2 \text{ c} \approx 2 \text{ c} \cdot \frac{237 \text{ mL}}{1 \text{ c}} = 474 \text{ mL}$

## Application Example

5. A person is 63 inches tall. How many centimeters is that?

$$63 \text{ in.} \approx 63 \text{ in.} \cdot \frac{2.54 \text{ cm}}{1 \text{ in.}}$$

$$= 160.02 \text{ cm}$$

∴ The height of the person is about 160.02 centimeters.

## PRACTICE MAKES *PURR*-FECT®

*Check your answers at BigIdeasMath.com.*

**Complete the unit conversion. Round to the nearest hundredth if necessary.**

6. 26 mi ≈ 41.86 km
7. 150 g ≈ 5.30 oz
8. 2 L ≈ 2.11 qt
9. 70 lb ≈ 31.82 kg
10. 12 ft ≈ 3.66 m
11. 16 km ≈ 9.94 mi
12. 36 cm ≈ 14.17 in.
13. 7 gal ≈ 26.53 L
14. 9 qt ≈ 8.55 L
15. 800 mL ≈ 3.38 c
16. 5 gal ≈ 18,925 $cm^3$
17. 12 $m^3$ ≈ 3168 gal

18. **WEIGHT** How much does the wolf weigh in pounds?

about 72.6 pounds

Weight: 33 kg

19. **SPEED** A hummingbird flies at a speed of 33 feet per second. What is the speed of the hummingbird in meters per second?

about 10.06 meters per second