REVIEW: Converting Between Systems

Name _____

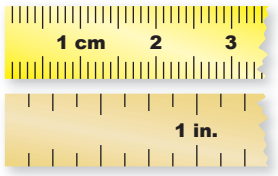
Key Concept and Vocabulary

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 ≈ _____ km
7. 150 g ≈ _____ oz
8. 2 L ≈ _____ qt
9. 70 lb ≈ _____ kg
10. 12 ft ≈ _____ m
11. 16 km ≈ _____ mi
12. 36 cm ≈ _____ in.
13. 7 gal ≈ _____ L
14. 9 qt ≈ _____ L
15. 800 mL ≈ _____ c
16. 5 gal ≈ _____ cm^3
17. 12 m^3 ≈ _____ gal

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

_____