

# 2-6 Practice Day 2

Form G

## Ratios, Rates, and Conversions

Convert the given amount to the given unit.

1. 60 ft; yd  
 $60 \cancel{\text{ft}} \cdot \frac{1 \text{ yd}}{3 \cancel{\text{ft}}} = \frac{60 \text{ yd}}{3} = \boxed{20 \text{ yd}}$

2. 100 meters; cm  
 $100 \cancel{\text{m}} \cdot \frac{100 \text{ cm}}{1 \cancel{\text{m}}} = \boxed{10,000 \text{ cm}}$

3. 12 meters; ft  
 $12 \cancel{\text{m}} \cdot \frac{3.28 \text{ ft}}{1 \cancel{\text{m}}} = \boxed{39.36 \text{ ft}}$

4. 16 in.; cm  
 $16 \cancel{\text{in}} \cdot \frac{2.54 \text{ cm}}{1 \cancel{\text{in}}} = \boxed{40.64 \text{ cm}}$

5. 2076 cm; yd  
 $2076 \cancel{\text{cm}} \cdot \frac{1 \text{ yd}}{91.44 \cancel{\text{cm}}} = \frac{2076 \text{ yd}}{91.44} = \boxed{22.7 \text{ yd}}$

6. 15 pounds; grams  
 $15 \cancel{\text{lb}} \cdot \frac{453.6 \text{ g}}{1 \cancel{\text{lb}}} = 6804 \text{ gm}$

Copy and complete each statement.

7. 3.5 days = 5040 min

8. 100 yd = 91.5 m

9. 15 dollars/hr = 25 cents/min

10. 5 L/s = .3 kL/min

11. 62 in. = 1.58 m

12. 7 days = 604,800 s

Solve.

13. Leah rides 22 feet per second on her bicycle. How many miles per hour does she ride?

24,146 m/hr.

14. A runner is running 10 miles per hour.

a. What conversion factor should be used to convert 10 mi/hr to ft/seconds?

1 mi = 5280 ft, 60 min = 1 hr, 60 sec = 1 min

b. How many feet per second is the runner running? 14.7 ft/s

15. How many yards are in 3 miles?

$3 \cancel{\text{mi}} \cdot \frac{5280 \cancel{\text{ft}}}{1 \cancel{\text{mi}}} \cdot \frac{1 \text{ yd}}{3 \cancel{\text{ft}}} = \frac{3 \cdot 5280}{3} = \boxed{5280 \text{ yd}}$

16. Juan's car gets an average of 24 miles per gallon of gas. How far can Juan go on 1 quart of gas?

$\frac{24 \text{ mi}}{\cancel{\text{gal}}} \cdot \frac{1 \cancel{\text{gal}}}{4 \text{ qt}} = \frac{24 \text{ mi} \div 4}{4 \text{ qt} \div 4} = \boxed{\frac{6 \text{ mi}}{\text{qt}}}$

$$7) 3.5 \text{ days} \cdot \frac{24 \text{ hr}}{1 \text{ day}} \cdot \frac{60 \text{ min}}{1 \text{ hr}} = 3.5 \cdot 24 \cdot 60 \text{ min} = \boxed{5040 \text{ min}}$$

$$8) 100 \text{ yd} \cdot \frac{3 \text{ ft}}{1 \text{ yd}} \cdot \frac{1 \text{ m}}{3.28 \text{ ft}} = \frac{100 \cdot 3 \cdot 1}{1 \cdot 3.28} \text{ m} = \frac{300}{3.28} \approx \frac{300 \div 3.28}{3.28 \div 3.28} = \boxed{91.5 \text{ m}}$$

$$9) \frac{15 \text{ dollars}}{1 \text{ hr}} \cdot \frac{100 \text{ cents}}{1 \text{ dollar}} \cdot \frac{1 \text{ hr}}{60 \text{ min}} = \frac{15 \cdot 100 \cdot 1}{1 \cdot 1 \cdot 60} \text{ cents} = \frac{1500 \text{ cents}}{60 \text{ min} \div 60} = \boxed{\frac{25 \text{ cents}}{1 \text{ min}}}$$

$$10) 5 \text{ L/s} = \text{---} \text{ KL/min}$$

$$\frac{5 \text{ L}}{1 \text{ sec}} \cdot \frac{0.001 \text{ KL}}{1 \text{ L}} \cdot \frac{60 \text{ s}}{1 \text{ min}} = \frac{5 \cdot 0.001 \cdot 60 \text{ KL}}{1 \cdot 1 \cdot 1 \text{ min}} = \boxed{\frac{0.3 \text{ KL}}{1 \text{ min}}}$$

$$11) 62 \text{ in} = \text{---} \text{ m}$$

$$\begin{aligned} 62 \text{ in} \cdot \frac{1 \text{ ft}}{12 \text{ in}} \cdot \frac{1 \text{ m}}{3.28 \text{ ft}} &= \frac{62 \cdot 1 \cdot 1}{12 \cdot 3.28} \text{ m} \\ &= \frac{62}{39.36} \text{ m} \\ &= \frac{62 \div 39.36}{39.36 \div 39.36} \\ &\approx \boxed{1.58 \text{ m}} \end{aligned}$$

$$12) 7 \text{ days} = \text{---} \text{ s}$$

$$7 \text{ days} \cdot \frac{24 \text{ hr}}{1 \text{ day}} \cdot \frac{60 \text{ min}}{1 \text{ hr}} \cdot \frac{60 \text{ s}}{1 \text{ min}} = \frac{7 \cdot 24 \cdot 60 \cdot 60 \text{ s}}{1} = \boxed{604,800 \text{ sec}}$$

$$13) \frac{22 \text{ ft}}{1 \text{ sec}} ; \frac{\text{mi}}{\text{hr}} \quad \frac{22 \text{ ft}}{\text{sec}} \cdot \frac{3600 \text{ sec}}{1 \text{ hr}} \cdot \frac{1 \text{ mi}}{5280 \text{ ft}} = \frac{79200 \text{ mi}}{5280 \text{ hr}} = \boxed{15 \text{ mi/hr}}$$

$$14) \frac{10 \text{ m}}{\text{h}} ; \text{ft/s} \quad \frac{10 \text{ m}}{\text{hr}} \cdot \frac{5280 \text{ ft}}{1 \text{ m}} \cdot \frac{1 \text{ hr}}{60 \text{ min}} \cdot \frac{1 \text{ min}}{60 \text{ sec}} = \frac{10 \cdot 5280 \text{ ft}}{60 \cdot 60 \text{ sec}} \\ = \frac{52800 \text{ ft}}{3600 \text{ sec} \div 3600} = \boxed{\frac{14.7 \text{ ft}}{\text{sec}}}$$