

Name: _____

Date: _____

Extra Practice: Unit Conversions

Conversions

1 hour = 3600 seconds
 1 meter = 3.28 feet
 1 kg = 2.2 lbs
 1 km = 1000m
 100cm = 1 m

1 mile = 5280 feet
 1 km = 0.62 miles
 1 lb = 0.45 kg
 1 foot = 12 inches
 1 kg = 1000 grams

24 hr = 1 day & 365 days = 1 year

1 yard = 3 feet
 1 light second = 300,000,000 meters
 1 quart = 0.946 liters
 1 inch = 2.54 cm = 25.4 mm

Convert the following quantities.

1) 565,900 seconds into days

$$\frac{565,900 \text{ sec}}{1} \cdot \frac{1 \text{ hr}}{3600 \text{ sec}} = \frac{157.19 \text{ hr}}{1} \cdot \frac{1 \text{ day}}{24 \text{ hr}} = \underline{\underline{6.55 \text{ days}}}$$

2) 17 years into minutes

$$\frac{17 \text{ yrs}}{1} \cdot \frac{365 \text{ days}}{1 \text{ yr}} = \frac{6205 \text{ days}}{1} \cdot \frac{24 \text{ hr}}{1 \text{ days}} = \frac{148920 \text{ hr}}{1} \cdot \frac{60 \text{ min}}{1 \text{ hr}} =$$

$$\underline{\underline{8935200 \text{ min}}}$$

3) 43 miles into feet

$$\frac{43 \text{ mi}}{1} \cdot \frac{5280 \text{ ft}}{1 \text{ mi}} = \underline{\underline{227040 \text{ ft}}}$$

4) 165 pounds into kilograms

$$\frac{165 \text{ lb}}{1} \cdot \frac{.45 \text{ kg}}{1 \text{ lb}} = \underline{\underline{74.25 \text{ kg}}}$$

5) 100 yards into meters

$$\frac{100 \text{ yards}}{1} \cdot \frac{3 \text{ ft}}{1 \text{ yard}} \cdot \frac{1 \text{ m}}{3.28 \text{ ft}} = \frac{300}{3.28} = \underline{\underline{91.5 \text{ m}}}$$

6) 22,647 inches into miles

$$\frac{22,647 \text{ in}}{1} \cdot \frac{2.54 \text{ cm}}{1 \text{ in}} \cdot \frac{1 \text{ m}}{100 \text{ cm}} \cdot \frac{3.28 \text{ ft}}{1 \text{ m}} \cdot \frac{1 \text{ mile}}{5280 \text{ ft}} = \frac{182576.69}{528000}$$

$$= \underline{\underline{.35 \text{ miles}}}$$

7) 2678 cm into feet

$$\frac{2678 \text{ cm}}{1} \cdot \frac{1 \text{ m}}{100 \text{ cm}} \cdot \frac{3.28 \text{ ft}}{1 \text{ m}} = \frac{8783.84}{100} = \underline{\underline{87.84 \text{ ft}}}$$

8) 60 miles per hour into meters per second

$$\frac{60 \text{ miles}}{1 \text{ hr}} \cdot \frac{5280 \text{ ft}}{1 \text{ mile}} \cdot \frac{1 \text{ m}}{3.28 \text{ ft}} \cdot \frac{1 \text{ hr}}{3600 \text{ s}} = \frac{31680}{11808} = \underline{\underline{2.68 \frac{\text{m}}{\text{s}}}}$$

9) 130 meters per second into miles per hour

$$\frac{130 \text{ m}}{1 \text{ s}} \cdot \frac{3600 \text{ s}}{1 \text{ hr}} \cdot \frac{3.28 \text{ ft}}{1 \text{ m}} \cdot \frac{1 \text{ mile}}{5280 \text{ ft}} = \frac{1535040}{5280} = \underline{\underline{290.72 \frac{\text{mi}}{\text{hr}}}}$$

10) 1100 feet per second into miles per hour

$$\frac{1100 \text{ ft}}{1 \text{ s}} \cdot \frac{3600 \text{ s}}{1 \text{ hr}} \cdot \frac{1 \text{ mile}}{5280 \text{ ft}} = \frac{3960000}{5280} = \underline{\underline{750 \frac{\text{mi}}{\text{hr}}}}$$

11) 53 yards per hour into inches per week NOTE: 12 inches = 1 foot

$$\frac{53 \text{ yards}}{1 \text{ hr}} \cdot \frac{24 \text{ hr}}{1 \text{ day}} \cdot \frac{7 \text{ days}}{1 \text{ week}} \cdot \frac{3 \text{ feet}}{1 \text{ yard}} \cdot \frac{12 \text{ inches}}{1 \text{ ft}} = \frac{320544 \text{ inches}}{1 \text{ week}}$$

12) 721 lbs per week into kg per second

$$\frac{721 \text{ lbs}}{1 \text{ week}} \cdot \frac{1 \text{ week}}{7 \text{ days}} \cdot \frac{1 \text{ day}}{24 \text{ hr}} \cdot \frac{1 \text{ hr}}{3600 \text{ seconds}} \cdot \frac{1 \text{ kg}}{2.2 \text{ lbs}} = \frac{721}{1330560} = \underline{\underline{0.000542 \frac{\text{kg}}{\text{sec}}}}$$

13) 88 inches per second into miles per day

$$\frac{88 \text{ inches}}{1 \text{ sec}} \cdot \frac{3600 \text{ sec}}{1 \text{ hr}} \cdot \frac{24 \text{ hr}}{1 \text{ day}} \cdot \frac{2.54 \text{ cm}}{1 \text{ in}} \cdot \frac{1 \text{ m}}{100 \text{ cm}} \cdot \frac{3.28 \text{ ft}}{1 \text{ m}} \cdot \frac{1 \text{ mi}}{5280 \text{ ft}} = \frac{633487}{528000} = \underline{\underline{1.199 \frac{\text{mi}}{\text{day}}}}$$

14) 12080 gallons per month into liters per hour

$$\frac{12080 \text{ gal}}{1 \text{ month}} \cdot \frac{3.7 \text{ L}}{1 \text{ gal}} \cdot \frac{1 \text{ month}}{30 \text{ days}} \cdot \frac{1 \text{ day}}{24 \text{ hr}} = \frac{44696}{720} = \underline{\underline{62.1 \frac{\text{L}}{\text{hr}}}}$$

NOTE: 1 gallon = 3.7 Liters

15) 27 miles per gallon into kilometers per liter

$$\frac{27 \text{ mi}}{1 \text{ gal}} \cdot \frac{1 \text{ gal}}{3.7 \text{ Liters}} \cdot \frac{1 \text{ km}}{.62 \text{ mi}} = \frac{27}{2.336} = \underline{\underline{11.56 \frac{\text{km}}{\text{L}}}}$$

16) 186,282 miles per second into meters per second

$$\frac{186,282 \text{ mi}}{1 \text{ sec}} \cdot \frac{5280 \text{ ft}}{1 \text{ mi}} \cdot \frac{1 \text{ m}}{3.28 \text{ ft}} = \frac{983568960}{3.28} = \underline{\underline{299868585.4 \frac{\text{m}}{\text{sec}}}}$$