Unit Conversion Review

Conversions

1 hour = 3600 seconds
1 meter = 3.28 feet
1 kg = 2.2 lbs
1 m/s = 2.2 miles/hour
1 mile = 5280 feet
1 km = 0.62 miles
1 lb = 0.45 kg
1 foot = 12 inches
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.

565,900 seconds into days

$$565\,900\ s \times \frac{1\ h}{3600\ s} \times \frac{1\ d}{24\ h} = \boxed{6.550\ days}$$

17 years into minutes

$$17\ yr \times \frac{365\ d}{1\ yr} \times \frac{24\ h}{1\ d} \times \frac{60\ min}{1\ hr} = \boxed{8\,935\,200\ min}$$

43 miles into feet

$$43\ mi \times \frac{5280\ ft}{1\ mi} = \boxed{227\,040\ ft}$$

165 pounds into kilograms

$$165\ lb. \times \frac{0.45\ kg}{1\ lb.} = \boxed{74.25\ kg}$$

100 yards into meters

$$100\ yd. \times \frac{3\ ft}{1\ yd} \times \frac{1\ m}{3.28\ ft} = \boxed{91.5\ m}$$

22,647 inches into miles

$$22\,647\ in \times \frac{1\ ft}{12\ in} \times \frac{1\ mi}{5280\ ft} = \boxed{0.35743\ mi}$$

2678 cm into feet

$$2678\ cm \times \frac{1\ in}{2.54\ cm} \times \frac{1\ ft}{12\ in} = \boxed{87.86\ ft}$$

60 miles per hour into meters per second

$$\frac{60\ mi}{1\ h} \times \frac{1\ km}{0.62\ mi} \times \frac{1000\ m}{1\ km} \times \frac{1\ h}{3600\ s} = \boxed{26.88\ m/s}$$

130 meters per second into miles per hour

$$\frac{130\text{m}}{\text{s}} \times \frac{1\text{km}}{1000\text{m}} \times \frac{0.62\text{mi}}{1\text{km}} \times \frac{3600\text{s}}{1\text{h}} = \boxed{290.16\text{mi/h}}$$

1100 feet per second into miles per hour

$$\frac{1100\text{ft}}{\text{s}} \times \frac{1\text{mi}}{5280\text{ft}} \times \frac{3600\text{s}}{1\text{h}} = \boxed{750\text{mi/h}}$$

53 yards per hour into inches per week

$$\frac{53\text{yd}}{\text{h}} \times \frac{3\text{ft}}{1\text{yd}} \times \frac{12\text{in}}{1\text{ft}} \times \frac{24\text{h}}{1\text{d}} \times \frac{7\text{d}}{1\text{week}} = \boxed{320\,544\ \text{in/week}}$$

721 lbs per week into kg per second

$$\frac{721\text{lb}}{1\text{week}} \times \frac{0.45\text{kg}}{1\text{lb}} \times \frac{1\text{week}}{7\text{d}} \times \frac{1\text{d}}{24\text{h}} \times \frac{1\text{h}}{3600\text{s}} = \boxed{0.000536\ \text{kg/s}}$$

88 inches per second into miles per day

$$\frac{88\text{in}}{1\text{s}} \times \frac{1\text{ft}}{12\text{in}} \times \frac{1\text{mi}}{5280\text{ft}} \times \frac{3600\text{s}}{1\text{hr}} \times \frac{24\text{hr}}{1\text{d}} = \boxed{120\text{mi/d}}$$

12080 gallons per month into liters per hour

$$\frac{12\,080\text{G}}{1\text{month}} \times \frac{3.785\text{L}}{1\text{G}} \times \frac{1\text{month}}{30\text{d}} \times \frac{1\text{d}}{24\text{h}} = \boxed{63.504\text{L/h}}$$

27 miles per gallon into kilometers per liter

$$\frac{27\text{mi}}{1\text{G}} \times \frac{1\text{km}}{0.62\text{mi}} \times \frac{1\text{G}}{3.785\text{L}} = \boxed{11.5\text{km/L}}$$

186,282 miles per second into meters per second

$$\frac{186\,282\text{mi}}{1\text{s}} \times \frac{1\text{km}}{0.62\text{mi}} \times \frac{1000\text{m}}{1\text{km}} = \boxed{3.00455 \times 10^8\ \text{m/s}}$$

1G = 3.785L