

Unit Conversions (PA 9.4)

Note Title

4/6/2010

Unit Fraction: fraction of two different measures, equal to one

Ex: $\frac{12 \text{ inches}}{1 \text{ foot}}$, $\frac{1 \text{ yard}}{3 \text{ feet}}$, $\frac{16 \text{ ounces}}{1 \text{ pound}}$

We can convert units by using unit fractions.

① Convert

a) 84 inches to feet

$$\frac{84 \cancel{\text{inches}}}{1} \cdot \frac{1 \text{ foot}}{12 \cancel{\text{inches}}} = \boxed{7 \text{ feet}}$$

b) $8\frac{1}{2}$ feet to inches

$$\frac{17 \cancel{\text{feet}}}{2} \cdot \frac{12 \cancel{\text{inches}}}{1 \cancel{\text{foot}}} = 102 \text{ inches}$$

$$8 \cdot 12 = 96$$

$$\frac{1}{2} \cdot 12 = 6$$

$$\underline{102 \text{ in}}$$

c) 5 ft, 2 in to inches

$$\frac{5 \cancel{\text{ft}}}{1} \cdot \frac{12 \cancel{\text{in}}}{1 \cancel{\text{ft}}} = 60 \text{ in} \Rightarrow + 2 \text{ in} \Rightarrow \boxed{62 \text{ inches}}$$

② Subtract

$$14\text{ ft } 8\text{ in} - 3\text{ ft } 11\text{ in}$$

$$\begin{array}{r} 13 \quad 20 \\ \cancel{14}\text{ ft } \cancel{8}\text{ in} \end{array}$$

borrowing 1 ft = 12 in

$$- 3\text{ ft } 11\text{ in}$$

$$\hline 10\text{ ft } 9\text{ in}$$

Metric Units of Length

1 kilometer (km) = 1000 meters (m)

1 hectometer (hm) = 100 m

1 dekameter (dam) = 10 m

1 meter (m) = 1 m

1 decimeter (dm) = 1/10 m or 0.1 m

1 centimeter (cm) = 1/100 m or 0.01 m

1 millimeter (mm) = 1/1000 m or 0.001 m

③ Convert

a) 400 m to Kilometers

b) 4.6 cm to millimeters

④ Distance From London to Paris is 342 km
finish the chart.

	Meters	millimeters	centimeters	Kilometers
London to Paris				

⑤ Convert

a) 51 ounces to pounds (nearest tenth)

b) 48 mg to grams

	grams	Kilograms	Milligrams	centigrams
c) A six-year-old boy weighs	21,000			

d) 42 cups to quarts

e) 5 Liters to milliliters

Conversion between U.S. and metric systems (9.7)

⑥ 1 L $\approx$ 0.26 gallons, we spend \$1.50 per liter on gas, how much per gallon did we spend?

⑦ A six-year-old boy weighs 21 kg, how many pounds is this?