

$$\frac{4.76 \cancel{\text{mi}}}{9.92 \cancel{\text{hr}}} \times \frac{3 \cancel{\text{hr}}}{1 \cancel{\text{hr}}} \times \frac{1 \cancel{\text{mi}}}{5280 \cancel{\text{ft}}} \times \frac{1000 \cancel{\text{ft}}}{1 \cancel{\text{mi}}} \times \frac{15}{1 \text{ hour}}$$

$$\frac{4.76 \times 3 \times 15}{11} = 19.47 \frac{\text{miles}}{\text{hour}}$$

$$\frac{19.47}{1.1} = 17.7 \frac{\text{miles}}{\text{hour}}$$

$$\frac{19.47}{1.1} = 17.7 \frac{\text{miles}}{\text{hour}}$$

Oct 30-3:02 PM

$$P = \$15$$

$$\$8000 \text{ at } 5\% \text{ compounded quarterly.}$$

$$n = \# \text{ of times it's being compounded}$$

$$A = P \left(1 + \frac{r}{n}\right)^{nt}$$

$$= 8000 \left(1 + \frac{.05}{4}\right)^{1 \times 4}$$

$$= 8000 (1.0125)^4$$

$$= 8000 (1.0125)^4$$

$$= 8407.562695$$

$$= \$8407.56$$

$$\begin{array}{r} 1.0125 \\ \times 8000 \\ \hline 8000 \\ 40000 \\ 160000 \\ 800000 \\ \hline 8101250 \end{array}$$

Oct 30-3:11 PM

$$8000 \times \frac{1}{100} \times \frac{1}{4} = \$200$$

$$\frac{8000}{100} \times \frac{1}{4} = \frac{400}{4} = 100.25$$

$$1^{\text{st}} \text{ Q: } \$100 + \$8000 = \$8100$$

$$2^{\text{nd}} \text{ Q: } \$101.25 + \$8100 = \$8201.25$$

$$3^{\text{rd}} \text{ Q: } + 8201.25 = \text{ } \times \frac{1}{100} \times \frac{1}{4}$$

$$4^{\text{th}} \text{ Q: } \triangle + \text{ } = \triangle$$

Oct 30-3:21 PM

6.2 Unit Analysis II: Area & Volume

$A = b \cdot h$

$A = s^2$

$A = \frac{b \cdot h}{2}$

$A = \pi r^2$

$\pi = 3.14$

$A = 1 \text{ ft}^2 = 144 \text{ in}^2$

$\frac{1 \text{ ft}^2}{144 \text{ in}^2} = \frac{144 \text{ in}^2}{1 \text{ ft}^2}$

$36'' \times 24'' = 864 \text{ in}^2$

$864 \text{ in}^2 \times \frac{1 \text{ ft}^2}{144 \text{ in}^2} = 6 \text{ ft}^2$

How many square feet are in the poster?

Oct 30-3:25 PM

bolt of material 15 yards wide and 45 yards long
 how many square feet is this

$$67.5 \text{ yds} \times \frac{9 \text{ ft}^2}{1 \text{ yd}^2} = 67.5 \cdot 9 = 607.5 \text{ ft}^2$$

$$A = \frac{1.5}{4.5} = \frac{1}{3}$$

$$\frac{607.5 \text{ yds}^2}{2.9} = 209.5 \text{ ft}^2$$

Oct 30-3:32 PM

960 acres of land. How many square miles is this?

$$\frac{960 \text{ acres}}{1} \times \frac{1 \text{ mi}^2}{640 \text{ acres}} = \frac{3}{2} \text{ mi}^2 = 1 \frac{1}{2} \text{ miles}^2$$

$$\frac{1 \text{ acre}}{3} \times \frac{1 \text{ mi}^2}{640} = \frac{1}{1920} = .0005 \text{ mi}^2$$

$$3.5 \text{ liter} \times \frac{1000 \text{ ml}}{1} = 3500 \text{ ml}$$


1 liter = 1000 ml

Oct 30-3:37 PM

128 cubic feet = cubic inches

$$128 \text{ ft}^3 \times \frac{1728 \text{ in}^3}{\text{ft}^3} = 128 \cdot 1728 = 221,184 \text{ in}^3$$

1 ft³ = 1728 in³



$$\begin{array}{r} 12 \\ \times 12 \\ \hline 24 \\ 144 \\ \hline 1728 \end{array}$$

Oct 30-3:45 PM

6.3 Unit Analysis III: Weight

$$15 \text{ lbs.} \times \frac{16 \text{ oz.}}{1 \text{ lb.}} = 15 \cdot 16 = 240 \text{ ounces}$$

$$5 \text{ tons} \rightarrow \text{lbs.} \quad \frac{5 \text{ tons}}{1 \text{ ton}} \times \frac{2000 \text{ lbs.}}{1 \text{ ton}} = 10,000 \text{ lbs.}$$

1 ton = 2000 lbs.

$$\frac{250}{20,000} \text{ mg} \times \frac{1 \text{ gram}}{1000 \text{ mg}} \times \frac{1 \text{ kg}}{1000 \text{ grams}} = \frac{1}{4} \text{ kg}$$

Oct 30-3:49 PM

$$\frac{250,000}{1} \times \frac{1}{1000} \times \frac{1}{1000} = \frac{1}{4} \text{ kg}$$

$$113 \text{ lbs.} \times \frac{1 \text{ kg}}{2.2 \text{ lbs.}} = \frac{113}{2.2} = 51.36 \text{ kg}$$

2.2 lbs = 1 kg

$$\begin{array}{r} 2.2 \overline{) 113.00} \\ \underline{110} \\ 30 \\ \underline{22} \\ 90 \\ \underline{66} \\ 140 \\ \underline{132} \\ 80 \\ \underline{88} \\ 20 \\ \underline{22} \\ 0 \end{array}$$

$$\frac{22}{5} = 4.4$$

Oct 30-3:56 PM

$$157 \text{ lbs.} \times \frac{1 \text{ kg}}{2.2 \text{ lbs.}} = \frac{157}{2.2} = 71.36 \text{ kg}$$

P479

$$\text{Body Mass} = \frac{\text{wt (kg)}}{(\text{ht (m)})^2}$$

$$\begin{array}{r} 71.36 \\ 2.2 \overline{) 157.00} \\ \underline{154} \\ 30 \\ \underline{22} \\ 90 \\ \underline{66} \\ 140 \\ \underline{140} \\ 0 \end{array}$$

Oct 30-4:01 PM