

Warm up: $-8-5=-13$

$$\begin{array}{r} 3292 \\ \times 4 \\ \hline 1168 \end{array}$$

1) A formula states that $R = kn$. Solve for n if $R = 1.314 \times 10^{-8}$ and $k = 2.92 \times 10^5$.

$$R = kn$$

$$\frac{1.314 \times 10^{-8}}{2.92 \times 10^5} = \frac{2.92 \times 10^5}{2.92 \times 10^5} n$$

$$0.45 \times 10^{-13} = n$$

$$\boxed{4.5 \times 10^{-14}}$$

$$\begin{array}{r} 2.92 \sqrt{1.314} \\ \quad 0.45 \\ \hline 292 \sqrt{13140} \\ \quad -1168 \downarrow \\ \quad \quad 1460 \\ \quad \quad -1460 \\ \quad \quad \quad 0 \end{array}$$

2) $(5 \times 10^3)^2$

$$25 \times 10^6$$

$$\boxed{2.5 \times 10^7}$$

A rectangular plot of land is 5.8×10^2 feet long and 1.9×10^3 feet wide. What is the area?

$$(5.8 \times 10^2)(1.9 \times 10^3)$$

$$\begin{array}{r} 5.8 \\ \times 1.9 \\ \hline 52 \\ 172 \\ \hline 10.92 \end{array}$$

$$11.02 \times 10^5$$

$$1.102 \times 10^6 \text{ ft}^2$$

A scientific formula states that density=mass/volume ($d=m/V$). A 9.36×10^5 kg object has a volume of $2.4 \times 10^{19} \text{m}^3$. What is the density?

$$\begin{array}{r} 1 \\ 24 \\ \times 4 \\ \hline 96 \end{array}$$

$$\begin{array}{r} 1 \\ 24 \\ \times 3 \\ \hline 72 \end{array}$$

$$\begin{array}{r} 2 \\ 24 \\ \times 6 \\ \hline 144 \end{array} \quad \begin{array}{r} 3 \\ 24 \\ \times 9 \\ \hline 216 \end{array}$$

$$d = \frac{m}{V}$$

$$d = \frac{9.36 \times 10^5}{2.4 \times 10^{19}}$$

$$3.9 \times 10^{-14} \text{ kg/m}^3$$

$$\begin{array}{r} 24 \overline{) 9.36} \\ \underline{72} \\ 216 \\ \underline{216} \\ 0 \end{array}$$

$$\begin{array}{r} 24 \overline{) 93.6} \\ \underline{72} \\ 216 \\ \underline{216} \\ 0 \end{array}$$

A formula states that $k=y/x$. Solve for y if $k=6 \times 10^8$ and $x = 3.2 \times 10^3$.

$$k = \frac{y}{x}$$

$$(3.2 \times 10^3)(6 \times 10^8) = \left(\frac{y}{\cancel{3.2 \times 10^3}} \right) (\cancel{3.2 \times 10^3})$$

$$19.2 \times 10^{11} = y$$

$$\boxed{1.92 \times 10^{12}}$$

$$\begin{array}{r} 3.2 \\ \times 6 \\ \hline 19.2 \end{array}$$

Practice

$$\textcircled{1} \quad \frac{1.525 \times 10^8}{2.5 \times 10^5}$$

$$0.61 \times 10^3$$

6.1×10^2 times
larger

$$1.525 \times 10^8 = (2.5 \times 10^5)n$$

$$② \quad 5 (5.6 \times 10^5)$$

$$28 \times 10^5$$

$$2.8 \times 10^6 \text{ computers}$$

