

More Factor Labelling

Convert 12.5 inches to yards

$$? \text{ yards} = 12.5 \cancel{\text{inches}} \left(\frac{1 \text{ ft}}{12 \cancel{\text{inches}}} \right) \left(\frac{1 \text{ yd}}{3 \text{ ft}} \right)$$

$$\frac{3}{4} \cdot \frac{1}{2} \cdot \frac{2}{3}$$

$$\frac{(12.5)(1)(1)}{(12)(3)} \leftarrow \text{calculator}$$

$$\frac{3 \cdot 1 \cdot 2}{4 \cdot 2 \cdot 3}$$

$$? \text{ yards} = 0.3472\bar{2} \text{ yards}$$

$$\doteq 0.347 \text{ yd}$$

What is a light-year (i.e. what distance?)
 (The distance light travels in 1 year)

speed of light $3.00 \times 10^8 \frac{\text{m}}{\text{s}}$

1 year = 365.25 d

$$? \text{ m} = 1 \cancel{\text{y}} \left(\frac{365.25 \cancel{\text{d}}}{1 \cancel{\text{y}}} \right) \left(\frac{24 \cancel{\text{h}}}{1 \cancel{\text{d}}} \right) \left(\frac{60 \cancel{\text{min}}}{1 \cancel{\text{h}}} \right) \left(\frac{60 \text{ s}}{1 \cancel{\text{min}}} \right) \left(\frac{3.00 \times 10^8 \text{ m}}{1 \text{ s}} \right)$$

$$? \text{ m} = 9.46728 \dots \times 10^{15} \text{ m} \quad (9.46728 \text{ E } 15)$$

$$\doteq 9.47 \times 10^{15} \text{ m}$$