

Ex 1 | Light year = 9.4606×10^{12} km

Give 9 Ly $\times \frac{9.46 \times 10^{12} \text{ km}}{1 \text{ Ly}} \Rightarrow$

Ex 2

Give

$$\frac{1.70 \times 10^{14} \text{ km}}{1} \times \frac{1 \text{ Ly}}{9.46 \times 10^{12} \text{ km}} = \frac{1.70 \times 10^{14} \text{ km Ly}}{9.46 \times 10^{12} \text{ km}}$$

$$1 \text{ Light year} = 9.4606 \times 10^{12} \text{ km}$$

A distance to a star is 9.744418×10^{14} km away from a moon. What is this distance as a light year?

$$\textcircled{1} \quad 9.744418 \times 10^{14} \text{ km} \div 9.4606 \times 10^{12} \text{ km}$$

$$9.744418 \boxed{\text{Exp} 14} \div 9.4606 \boxed{\text{Exp} 12}$$

It is $\textcircled{0.5}$ 103 $\textcircled{0.5}$ Light years away

$$\begin{array}{c} \times 8 \quad \left(\begin{array}{l} 1 \text{ Ly} = 9.4606 \times 10^{12} \text{ km} \\ \downarrow \quad \quad \quad \downarrow \\ 8 \text{ Ly} \end{array} \right) \times 8 \end{array}$$

8 Light years is what in km?

$$8 \text{ Ly} \times \frac{9.4606 \times 10^{12} \text{ km}}{1 \text{ Ly}} = \text{ km}$$

$$7.5684 \times 10^{13}$$