

* You and a friend are going to split a 15-inch long sandwich. Your friend wants half as much as you. How many inches in length will the 2 pieces be?

$$\text{Your piece} = \textcircled{x} = \boxed{10 \text{ inches}}$$

$$\text{Friend's piece} = \text{half of } x = \textcircled{\frac{1}{2}x} = \boxed{5 \text{ inches}}$$

Friend's is half yours

15 inches total length

$$15 = \text{yours} + \text{friend's}$$

$$* \quad 15 = \textcircled{1}x + \textcircled{\frac{1}{2}}x \quad \text{solve for } x$$

$$\begin{array}{r} 5 \\ (\frac{2}{3}) \overline{)15} \\ \underline{10} \\ 5 \\ \underline{5} \\ 0 \end{array} = \frac{3}{2}x \quad (\frac{2}{3})$$

$$1 + \frac{1}{2}$$

$$\frac{2}{2} + \frac{1}{2}$$

$$\frac{3}{2}$$

$$\frac{10}{1} = x$$

$$10 = x$$