

Recall, similar objects are two or more 3-D objects that have proportional dimensions.

**Example 1:** Are the following frying pans similar?

Diameter	Depth	Handle Length
30	6	24
20	4	16

$$\frac{30}{20} = 1.5$$

$$\frac{6}{4} = 1.5$$

$$\frac{24}{16} = 1.5$$

*All criteria are the same scale factor so are similar.*

**Example 2:** Robert bought a toy tractor for his brother and it has dimensions 9.5 cm wide by 19.1 cm long by 12.7 cm high. The scale ratio on the package is 1:16.

What are the dimensions on the actual tractor?

*Scale length*  
                    
*actual length*

$$\frac{1}{16} \rightarrow \frac{9.5}{x}$$

$$x = 16(9.5) = 152$$

$$\frac{1}{16} \rightarrow \frac{19.1}{x}$$

$$x = 16(19.1)$$

$$x = 305.6$$

$$\frac{1}{16} = \frac{12.7}{x}$$

$$x = 16(12.7)$$

$$= 203.2$$