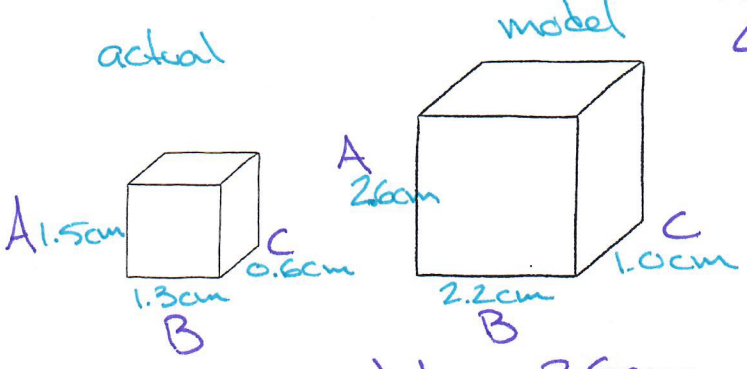
Lesson #8.5 – Scale Diagrams & 3D Models

We have learned how to draw scale diagrams in 2-D using a scale factor. We can use a similar strategy when dealing with 3-D objects as well.

Example 1: Are the two figures similar? Justify your answer.



↳ Technically No! Not the same value But If rounding to 1 decimal place then Yes, they are similar as the values for SF are the same!

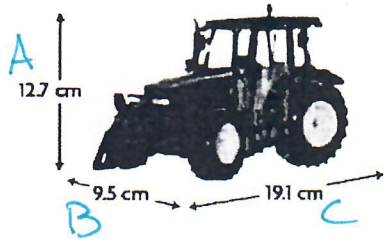
(A) $SF = \frac{model}{actual} = \frac{2.6cm}{1.5cm} = 1.73 \approx 1.7$

(B) $\frac{2.2cm}{1.3cm} = 1.69 \approx 1.7$

(C) $\frac{1.0cm}{0.6cm} = 1.67 \approx 1.7$

Example 2: Sarah bought a toy tractor to give to her younger brother for his birthday. The dimensions of the toy are given in the diagram. The scale ratio on the package is 1:16. What are the dimensions of the real tractor?

$SF = \frac{model}{actual} = \frac{1}{16}$



(A) $\frac{1}{16} = \frac{12.7cm}{x_A} \Rightarrow x_A = 16 \times 12.7 = 203cm$ or $2.03m$

(B) $\frac{1}{16} = \frac{9.5cm}{x_B} \Rightarrow x_B = 16 \times 9.5 = 152cm$ or $1.52m$

(C) $\frac{1}{16} = \frac{19.1cm}{x_C} \Rightarrow x_C = 16 \times 19.1 = 306cm = 3.06m$

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