

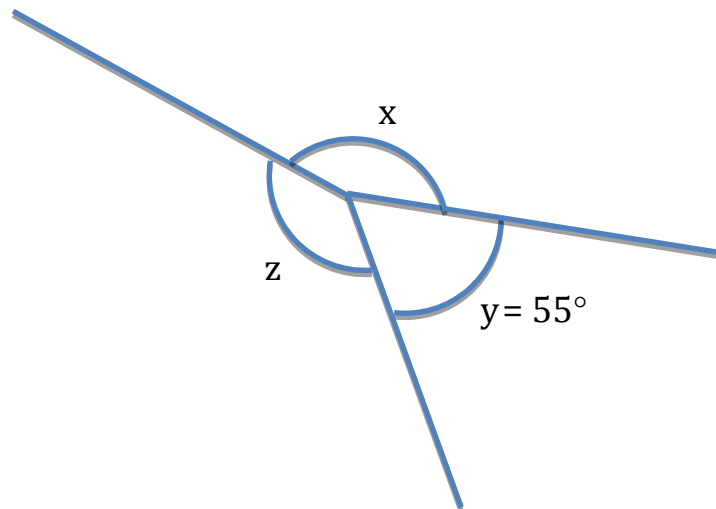
Questions from Cheyenne 01.02.13

Q1. A cubical container A has edge 2 cm while another cubical container B has edge 4 cm. What is the ratio of the volume of container A to the volume of container B? Give your answer in its simplest form.

	<u>A</u>	:	<u>B</u>
Ratio of Length of edge	2 cm	:	4 cm
Ratio of Volume	2 cm x 2 cm x 2 cm = 8 cm ³ = 1	:	4 cm x 4 cm x 4 cm = 64 cm ³ = 8

Ans: **1 : 8**

Q2. In the diagram below, not drawn to scale, $\angle y = 55^\circ$. If the size of $\angle x$ is 3 times the size of $\angle y$, find $\angle z$.



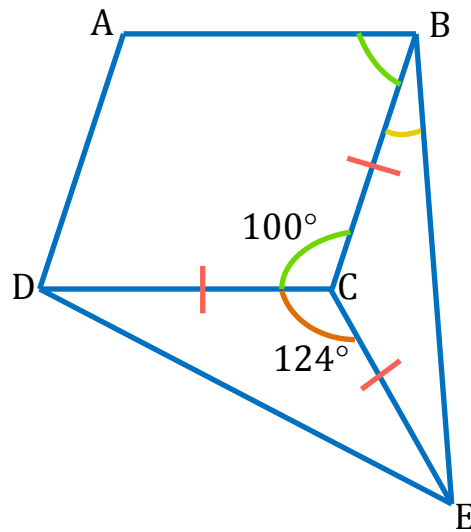
$$\angle y = 55^\circ$$

$$\angle x = 55^\circ \times 3 = 165^\circ$$

$$\angle z = 360^\circ - 55^\circ - 165^\circ = 140^\circ$$

Ans: **140°**

Q3. In the figure, not drawn to scale, ABCD is a rhombus and BCE and CDE are isosceles triangles. $\angle BCD = 100^\circ$ and $\angle DCE = 124^\circ$. Find $\angle ABE$.



$$\angle BCD + \angle ABC = 180^\circ \text{ (interior angles)}$$

$$\angle ABC = 180^\circ - 100^\circ = 80^\circ$$

$$\angle BCE = 360^\circ - 100^\circ - 124^\circ = 136^\circ$$

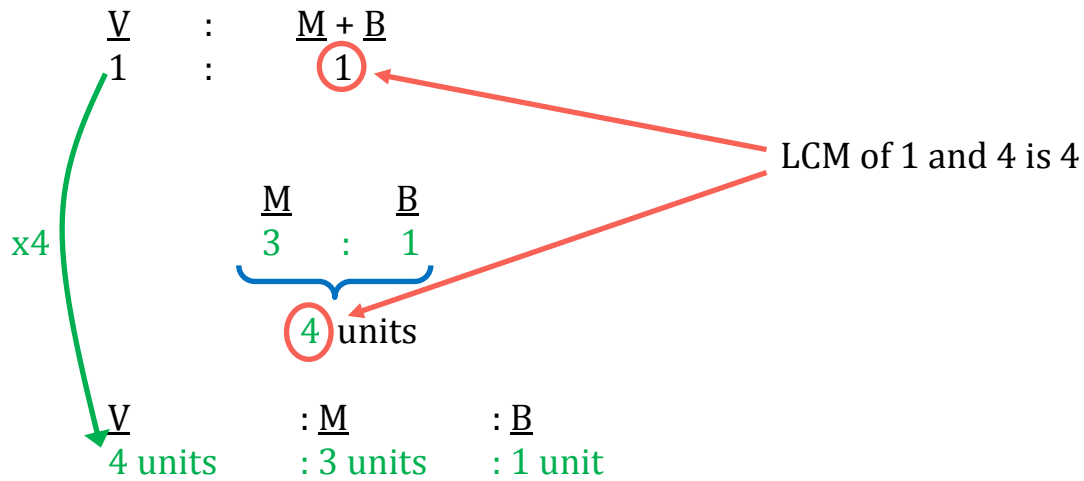
$$\triangle BCE \text{ is isosceles, so } \angle CBE = \angle BEC = (180^\circ - \angle BCE) \div 2$$

$$\angle CBE = (180^\circ - 136^\circ) \div 2 = 22^\circ$$

$$\angle ABE = \angle ABC + \angle CBE = 80^\circ + 22^\circ = 102^\circ$$

Ans: **102°**

Q4. Vivien, Megan and Beatrice were selling cupcakes for a fund-raising event. Each cupcake cost \$2. Vivien sold half of all the cupcakes. Megan and Beatrice sold the remaining cupcakes in the ratio 3 : 1. Vivien sold 36 more cupcakes than Beatrice. What was the total amount of money the three girls collected?



$$V - B \rightarrow 3 \text{ units (difference)}$$

$$4 + 3 + 1 = 8 \text{ units (total)}$$

$$3 \text{ units} \rightarrow 36 \text{ cupcakes}$$

$$1 \text{ unit} \rightarrow 12$$

$$8 \text{ units} \rightarrow 96$$

$$96 \times \$2 = \$192$$

Ans: **\$192**