Geometry Revision

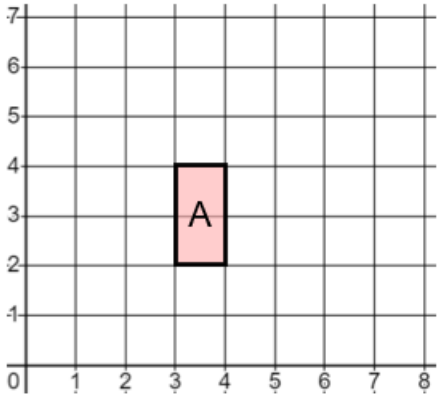
5

(a)

A metal cube of side length $8\ cm$. The density of the metal is $7.48\ g/cm^3$. Find the mass of the metal cube.

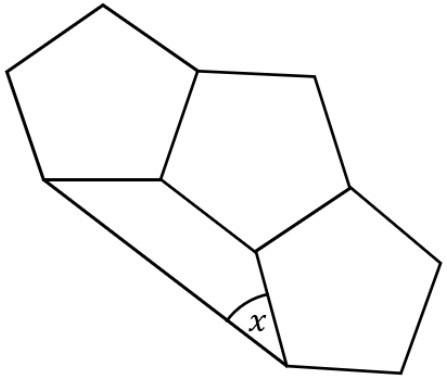
(b)

On the grid, enlarge shape A by a scale factor of 2 about centre $(1, 2)$



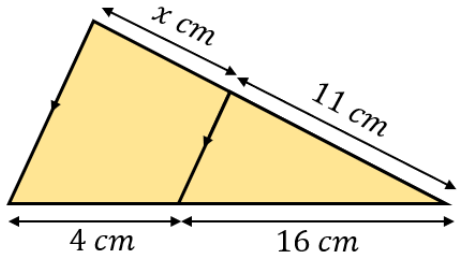
(c)

The diagram shows three regular pentagons joined together. Work out the value of angle x.



(d)

Work out the missing length x.



(e)

(i) Convert $4500\ cm^2$ into m^2

(ii) Convert $0.085\ cm^3$ into mm^3

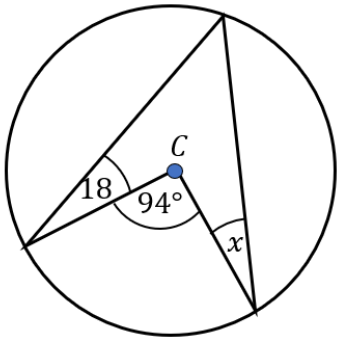
(f)

$\overrightarrow{OA} = \begin{pmatrix} 4 \\ 3 \end{pmatrix}$ $\overrightarrow{OB} = \begin{pmatrix} -2 \\ 7 \end{pmatrix}$

Find $\overrightarrow{AB}$ as a column vector

(g)

Work out the size of angle x. Give reasons for your answer.



(h)

The total surface area of the hemisphere is equal to the total surface area of the cylinder. Find the height h.