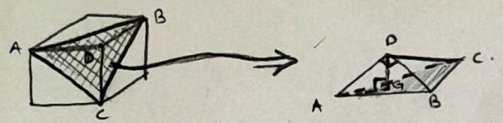
1.



$\triangle ADB$ & $\triangle AGD$ are right triangles.

AG : Isometric length
AD : true length

We need to find $\frac{AG}{AD}$.

~~$\Rightarrow AD^2 = IA$~~

→ Note : $\triangle ADB$ is isoceles.

$\therefore AD = \frac{AB}{\sqrt{2}}$ → (1).

→ G is the centroid of $\triangle ABC$

$\triangle ABC$ is equilateral.

$\therefore AG = \frac{2}{3} \times \frac{\sqrt{3}}{2} AB$

$= \frac{AB}{\sqrt{3}}$ → (2)

→ Dividing (2) & (1):

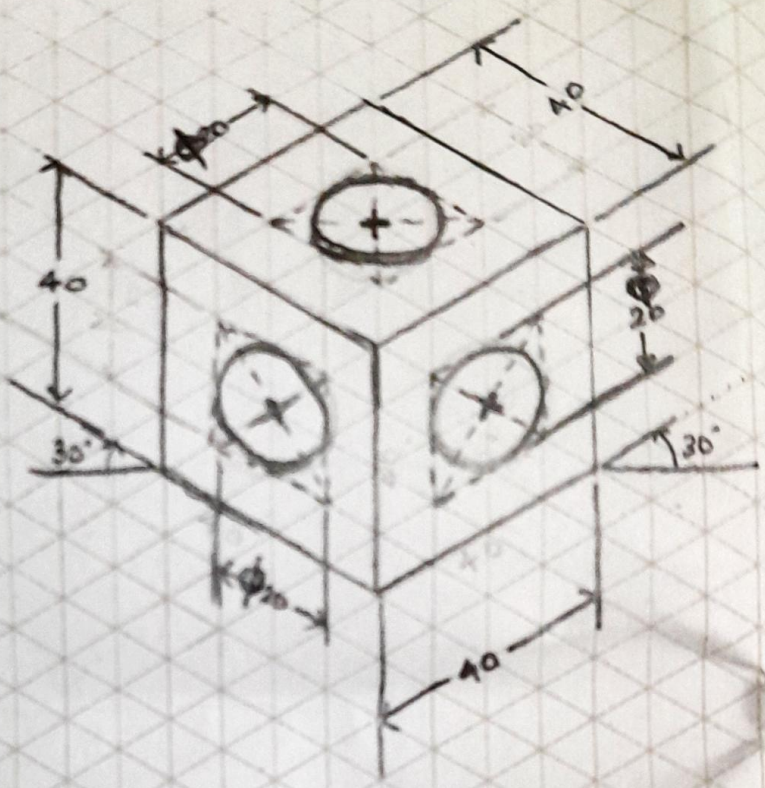
$$\frac{AG}{AD} = \frac{\left(\frac{AB}{\sqrt{3}}\right)}{\left(\frac{AB}{\sqrt{2}}\right)} = \sqrt{\frac{2}{3}}$$

$= 0.8165$

$\sim$ **81.65%**

∴ The lengths in isometric projections are 81.65% of the true lengths.

2.



3.