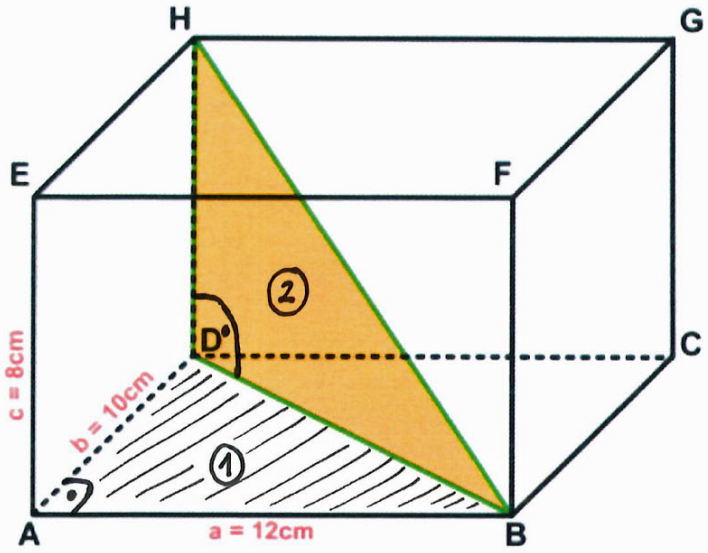
Berechne den **Umfang u** und den **Flächeninhalt A** des Dreiecks BHD.



① : $\overline{BD}^2 = \overline{AB}^2 + \overline{AD}^2 \quad |\sqrt{}$

$\overline{BD} = \sqrt{\overline{AB}^2 + \overline{AD}^2}$

$= \sqrt{12^2 + 10^2}$

$= \sqrt{144 + 100}$

$= \sqrt{244}\ cm$

② $\overline{BH}^2 = \overline{BD}^2 + \overline{DH}^2 \quad |\sqrt{}$

$\overline{BH} = \sqrt{\overline{BD}^2 + \overline{DH}^2}$

$= \sqrt{\sqrt{244}^2 + 8^2}$

$= \sqrt{244 + 64}$

$= \sqrt{308}\ cm$

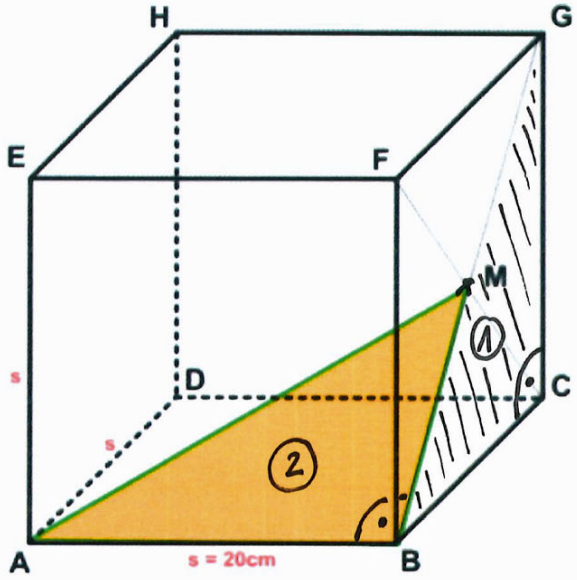
$\Rightarrow u = \overline{BH} + \overline{DH} + \overline{BD}$

$= (\sqrt{308} + 8 + \sqrt{244})\ cm$

$A = \frac{\overline{BD} \cdot \overline{DH}}{2} = \frac{\sqrt{244}\ cm \cdot 8cm}{2}$

$= \sqrt{244} \cdot 4\ cm^2$

Berechne den **Umfang u** und den **Flächeninhalt A** des Dreiecks ABM.



① : $\overline{BG}^2 = \overline{BC}^2 + \overline{CG}^2 \quad |\sqrt{}$

$\overline{BG} = \sqrt{\overline{BC}^2 + \overline{CG}^2}$

$= \sqrt{20^2 + 20^2}$

$= \sqrt{400 + 400}$

$= \sqrt{800}\ cm$

$\Rightarrow \overline{BM} = \frac{\overline{BG}}{2} = \frac{\sqrt{800}}{2}\ cm$

② $\overline{AM}^2 = \overline{AB}^2 + \overline{BM}^2 \quad |\sqrt{}$

$\overline{AM} = \sqrt{\overline{AB}^2 + \overline{BM}^2}$

$= \sqrt{20^2 + \left(\frac{\sqrt{800}}{2}\right)^2}$

$= \sqrt{400 + 200} = \sqrt{600}\ cm$

$\Rightarrow u = \overline{AB} + \overline{BM} + \overline{AM}$

$= (20 + \frac{\sqrt{800}}{2} + \sqrt{600})\ cm$

$A = \frac{\overline{AB} \cdot \overline{BM}}{2} = \frac{20cm \cdot \frac{\sqrt{800}}{2}\ cm}{2}$

$= 10 \cdot \frac{\sqrt{800}}{2}\ cm^2 = 5 \cdot \sqrt{800}\ cm^2$