

4

Sea $\triangle ABC$:

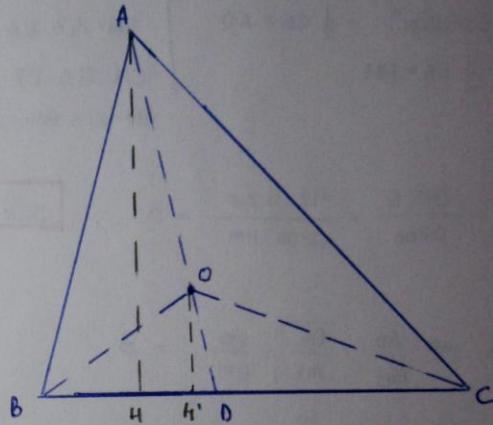
- $BD = \frac{1}{4} BC \Rightarrow BC = 4BD$

- $OD = \frac{1}{4} AD$

- $S_{\triangle ABC} = 96 \text{ m}^2$

- AD No \perp a BC

Hallar $S_{\triangle AOB}$, $S_{\triangle AOC}$, $S_{\triangle OBC}$



$$S_{\triangle ABC} = \frac{1}{2} BC \times AH = 96 \text{ m}^2 \quad \left\{ \begin{array}{l} 96 = \frac{1}{2} 4BD \times AH \\ AH = \frac{48}{BD} \end{array} \right.$$

$$S_{\triangle OBC} = \frac{1}{2} BC \times OH'$$

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$$\frac{AH}{OH'} = \frac{AD}{OD} = \frac{HD}{H'D} = \frac{S_{\triangle ABC}}{S_{\triangle OBC}} = 4 \Rightarrow \frac{S_{\triangle ABC}}{S_{\triangle OBC}} = \frac{\frac{1}{2} BC \times AH}{\frac{1}{2} BC \times OH'} = 4$$

Como $OD = \frac{1}{4} AD$

$$\frac{96 \text{ m}^2}{S_{\triangle OBC}} = 4 ; \quad \boxed{S_{\triangle OBC} = 24 \text{ m}^2}$$