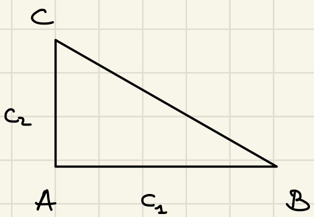
Es 308 pag 403



$$i^2 = c_1^2 + c_2^2 \qquad c_1 > c_2 > 0$$

$$A = \frac{c_1 \cdot c_2}{2}$$

ipotenusa invariata

$$\begin{cases} (c_1 - 4)^2 + (c_2 + 4)^2 \boxed{=} c_1^2 + c_2^2 \\ \dfrac{(c_1 - 4)(c_2 + 4)}{2} \boxed{=} \dfrac{c_1 c_2}{2} \end{cases}$$

Area invariata

$$\begin{cases} \cancel{c_1^2} + 16 - 8c_1 + \cancel{c_2^2} + 16 + 8c_2 = \cancel{c_1^2} + \cancel{c_2^2} \\ \cancel{c_1 c_2} - 4c_2 + 4c_1 - 16 = \cancel{c_1 c_2} \end{cases}$$

$$\begin{cases} -8c_1 + 8c_2 = -32 \\ 4c_1 - 4c_2 = 16 \end{cases} \longrightarrow \cdot(-2) \qquad \begin{cases} -8c_1 + 8c_2 = -32 \\ -8c_1 + 8c_2 = -32 \end{cases}$$

Il sistema è indeterminato. Ho infinite soluzioni:

$$c_2 - c_1 = -4$$
$$c_1 - c_2 = 4$$

$c_1 = 5$, $c_2 = 1$

$c_1 = 6$, $c_2 = 2$

$\vdots$

infinite soluzioni accettabili

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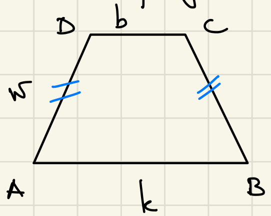

$$\begin{cases} w = \frac{2}{3} b \\ b + 2w + k = 3k - 8 \\ k - b = b - w \end{cases}$$

$$\begin{cases} w = \frac{2}{3}b \\ b + \frac{4}{3}b + k = 3k - 8 \\ k = 2b - \frac{2}{3}b \end{cases}
\rightarrow
\begin{cases} w = \frac{2}{3}b \leadsto \boxed{w = 16} \\ k = \frac{4}{3}b \leadsto \boxed{k = 32} \\ b + \frac{4}{3}b + \frac{4}{3}b = 4b - 8 \leadsto \frac{12-3-4-4}{3}b = 8 \end{cases}$$

$$\frac{1}{3}b = 8 \leadsto \boxed{b = 24}$$

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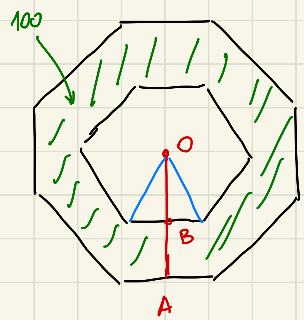

$OB = 2$

$OA = 3$

lato esagono : x

lato ottagono : y

Area esagono $6 \cdot \frac{OB \cdot x}{2} = 6x$ $\quad P_{esag} : 6x$

Area ottagono $8 \cdot \frac{OA \cdot y}{2} = 12y$ $\quad P_{ottag} : 8y$

$$\begin{cases} 8y - 6x = 100 \\ 12y + 6x = 100 \end{cases} \quad \downarrow + \quad 20y = 200 \qquad y = 10 \leadsto x = \frac{10}{3}$$

$$\frac{P_{esag}}{P_{ott}} = \frac{6x}{8y} = \frac{\cancel{6}^{2} \cdot \frac{\cancel{10}}{\cancel{3}}}{_{4}\cancel{8} \cdot \cancel{10}} = \frac{1}{4}$$

Warning!!! Il disegno NON esiste; non si può costruire!