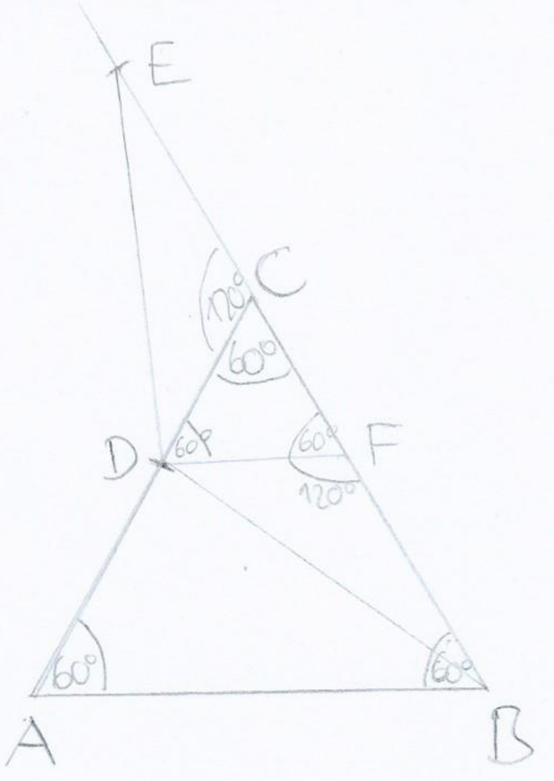
C-1-3

(1) $|AD| = |CE|$

Frage: $|BD| = |DE|$?



Zuerst zeichnen wir eine Parallele zu $|AB|$ auf D.
Der Punkt auf der Parallele auf $|BC|$ benennen wir mit F.

$\Rightarrow \Delta DFC$ ist gls

$\Rightarrow |DF| = |DC|$

$\measuredangle ECD = \measuredangle DFB = 180° - 60° = 120°$

$|AD| = |FB|$ weil $|DF| \parallel |AB|$

$\Rightarrow (1): |CE| = |FB|$

$\Rightarrow \Delta DFB = \Delta DEC$

$\Rightarrow \underline{\underline{|BD| = |DE|}}$

C-1-4

(1) $A = \frac{x+y}{2}$

(2) $G = \sqrt{xy}$

(3) $\frac{A}{G} = \frac{5}{4}$

$\frac{x}{y} = ?$

$$\frac{x+y}{\sqrt{xy}} = \frac{2A}{G} = \frac{10}{4} \quad | : \frac{y}{y}$$

$$\frac{\frac{x}{y}+1}{\frac{\sqrt{xy}}{\sqrt{y^2}}} = \frac{\frac{x}{y}+1}{\sqrt{\frac{x}{y}}} = \frac{10}{4}$$

$$4\sqrt{\frac{x}{y}}^2 - 10\sqrt{\frac{x}{y}} + 4 = 0 \quad | : 2$$

$$2\sqrt{\frac{x}{y}}^2 - 5\sqrt{\frac{x}{y}} + 2 = 0$$

$$\sqrt{\frac{x}{y}} = z$$

$$2z^2 - 5z + 2 = 0$$

$$2z^2 - 4z - (z-2) = 0$$

$$2z(z-2) - (z-2) = 0$$

$$(2z-1)(z-2) = 0 \rightarrow \left[\begin{array}{l} z = 2 \\ z = \frac{1}{2} \end{array}\right.$$

$$z = \sqrt{\frac{x}{y}} = 2 \quad |^2$$

$$\underline{\underline{\frac{x}{y} = 4 = \frac{4}{1}}}$$

$$z = \sqrt{\frac{x}{y}} = \frac{1}{2} \quad |^2$$

$$\underline{\underline{\frac{x}{y} = \frac{1}{4}}}$$