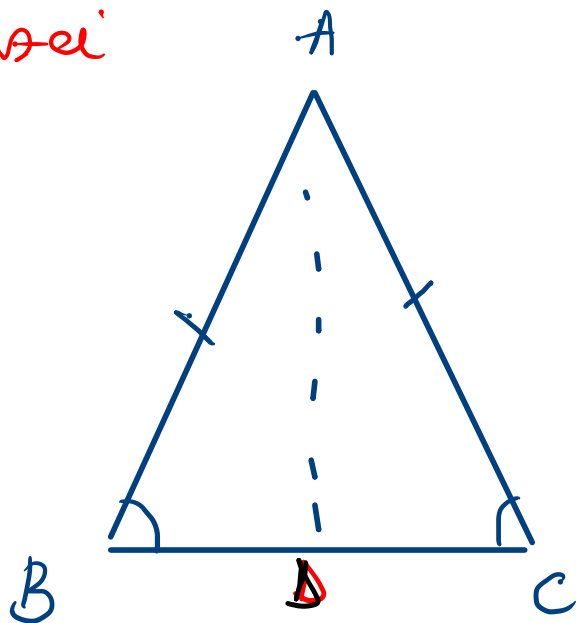


Proprietăți ale \triangle isoscel.

Triunghiul isoscel are 2 laturi congruente și 2 unghiuri congruente.
corespunzătoare bazei



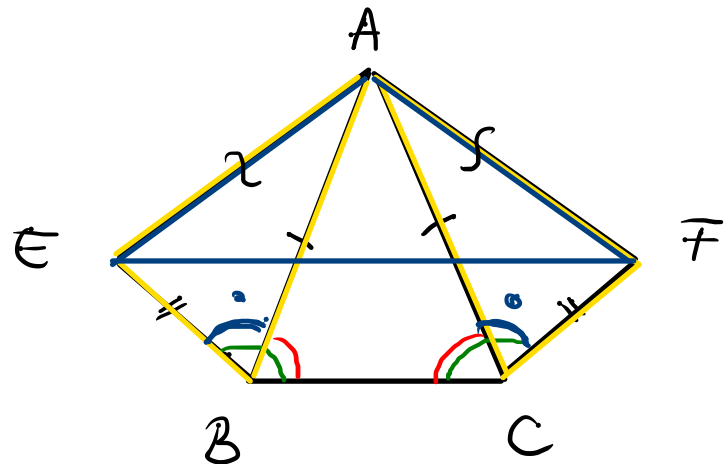
$$\begin{aligned}\triangle ABC \text{ isoscel} &\Rightarrow AB = AC \\ &\Rightarrow \sphericalangle ABC = \sphericalangle BCA\end{aligned}$$

⑦ În triunghiul isoscel, liniile importante corespunzătoare bazei, coincid. (bisectoarea, înălțimea, mediana, mediatoarea).

$$\left. \begin{array}{l} \triangle ABC \text{ is} \\ AD - \text{mediana} \end{array} \right\} \begin{array}{l} AD - \text{bis} \\ \text{etc.} \end{array}$$

$$\left. \begin{array}{l} \triangle ABC \text{ is} \\ AD - \text{bis} \end{array} \right\} AD - \text{înălțime}$$

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$\triangle ABC$ is

$$[AB] = [AC]$$

$$[EB] = [CF]$$

$$\underline{\angle EBC = \angle FCB}$$

a) $\triangle ABE \equiv \triangle ACF$

b) natura $\triangle AEF$

$$\triangle ABC \text{ is } \Rightarrow \underline{\angle ABC = \angle ACB}$$

$$\begin{aligned} \angle EBA &= \angle EBC - \angle ABC \\ \angle ACF &= \angle BCF - \angle BCA \end{aligned}$$

$$\angle EBC = \angle BCF$$

$$\Rightarrow \angle EBA = \angle ACF$$

$\triangle ABE$ și $\triangle ACF$

$$\angle EBA = \angle ACF$$

$$EB = CF$$

LU $AB = AC$

$$\Rightarrow \triangle ABE \equiv \triangle ACF \Rightarrow AE = AF$$

$\Rightarrow \triangle AEF$ isoscel

11

$\triangle ABC$ is

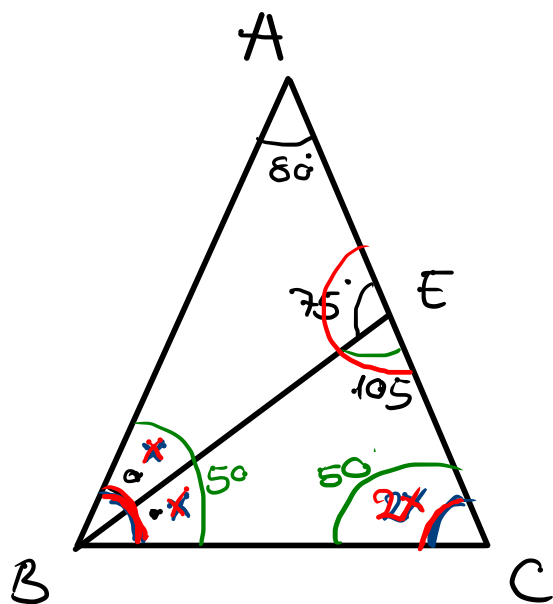
$$AB = AC$$

(BE bis $\angle ABC$)

E ∈ (AC)

$$\angle AEB = 75^\circ$$

write $\triangle ABC$



$$\angle BEC = \angle CEA - \angle BEA =$$

$$= 180 - 75 = 105^\circ$$

(BE bis $\angle ABC \Rightarrow$

$$\Rightarrow \angle ABE = \angle EBC$$

$\triangle ABC$ is $\Rightarrow \angle ABC = \angle ACB$

$$\triangle BEC: \angle EBC + \angle ECB + \angle BEC = 180^\circ$$

$$x + 2x + 105 = 180^\circ$$

$$3x = 75 \Rightarrow \boxed{x = 25}$$

$$\Rightarrow \angle ECB = 2x = 50^\circ = \angle ACB \Rightarrow \angle ABC = 50^\circ$$

$$\triangle ABC: \angle BAC + \angle ABC + \angle ACB = 180^\circ$$

$$\angle BAC + 50 + 50 = 180 \Rightarrow \angle BAC = 80^\circ$$

(17)

$\triangle ABC$ is

AD - median

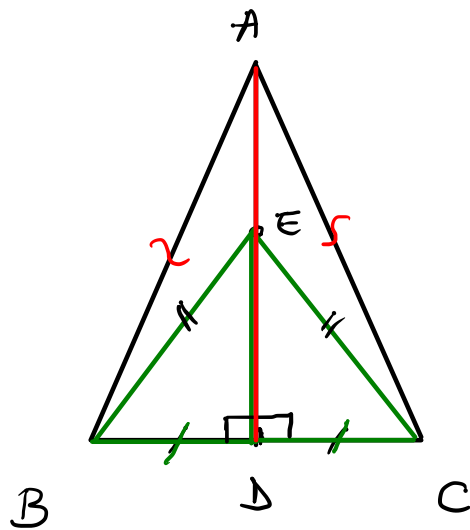
$[AB] \equiv [AC]$

$D \in [BC]$

$E \in [AD]$

a) $\triangle EDB \equiv \triangle EDC$

b) $\angle ABE \equiv \angle ACE$



AD - median \Rightarrow D - mij BC

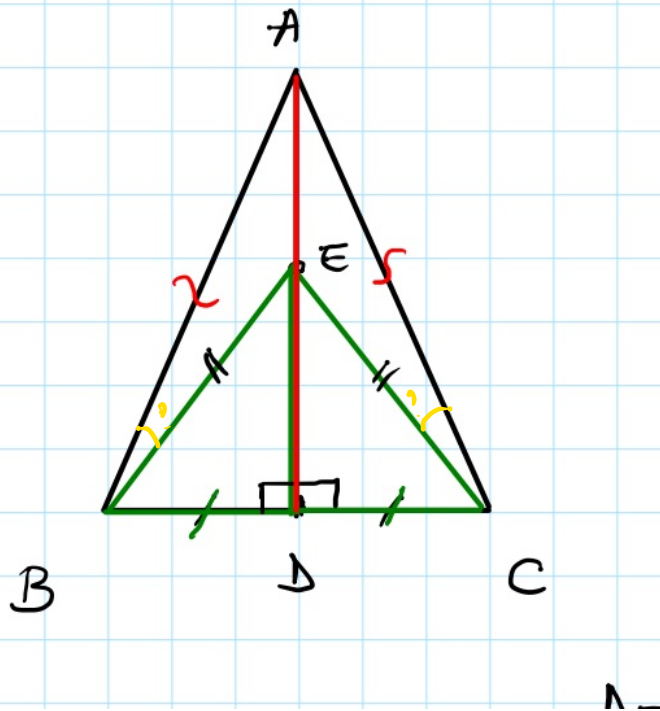
$\Rightarrow BD \equiv DC$

$\triangle ABC$ is \Rightarrow AD - înălțime
AD - med $\Rightarrow AD \perp BC$

$\Rightarrow ED \perp BC \Rightarrow$ ED - înălțime $\left. \vphantom{\begin{matrix} \Rightarrow ED \perp BC \\ \Rightarrow ED \text{ - înălțime} \end{matrix}} \right\} \triangle BEC$ is

D - mij BC \Rightarrow ED - median $\triangle BEC$. $\left. \vphantom{\begin{matrix} \Rightarrow ED \perp BC \\ \Rightarrow ED \text{ - înălțime} \\ \Rightarrow ED \text{ - median } \triangle BEC \end{matrix}} \right\} \Rightarrow EB \equiv EC$

(RT) Dacă 2 linii importante coincid, atunci \triangle -ul este isoscel.



$$a) \triangle EDB \equiv \triangle EDC$$

$$\triangle EDB \cong \triangle EDC$$

$$BD = DC$$

$$BE = EC$$

$$ED = ED \text{ (last com)}$$

$$\xRightarrow{LLL} \triangle EDB \equiv \triangle EDC$$

$$\triangle ABE \cong \triangle ACE$$

$$AE = AE \text{ (last com)}$$

$$AB = AC$$

$$BE = CE$$

$$\xRightarrow{LLL} \triangle ABE \equiv \triangle ACE \Rightarrow \sphericalangle ABE \equiv \sphericalangle ACE$$

b)

$$\boxed{\sphericalangle ABE \stackrel{?}{=} \sphericalangle ACE}$$

Criteriile de congruență a Δ -urilor dreptunghice.

(cc, ci, cu, iu)

cateta cateta

cateta ipotenuză

cateta unghi

ipotenuză unghi

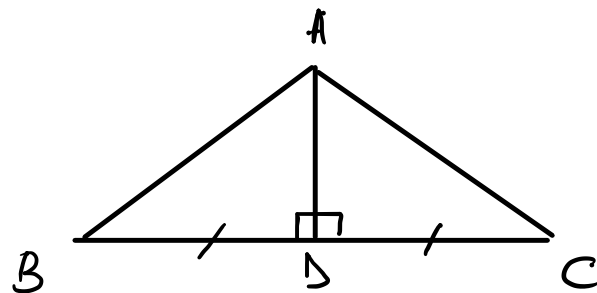
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ΔABC

$AD \perp BC$

Δ -mij' BC

ΔABC is



Δ -mij' BC \Rightarrow $BD \equiv DC$

Met I (limi importante)

$\Delta ABC : AD \perp BC \Rightarrow AD$ - înălțime } ΔABC is.
 Δ -mij' BC $\Rightarrow AD$ - mediană }

Met II (congruență de Δ -uri)

$\Delta ABD \cong \Delta ADC$ (dreptunghice)

$BD \equiv DC$

$AD \equiv AD$ (lat com)

$\xrightarrow{cc} \Delta ABD \equiv \Delta ADC \Rightarrow AB \equiv AC \Rightarrow \Delta ABC$ isoscel.

Obs! La congruența Δ -urilor dreptunghice este nevoie doar de 2 elemente (Nu se ia ca element unghiul drept)

5/101.

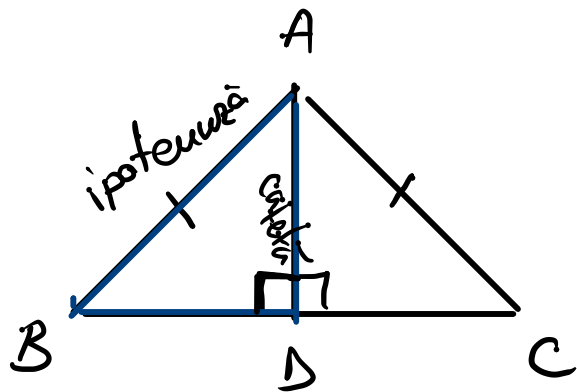
$\triangle ABC$ is

$AB \equiv AC$

$AD \perp BC$

$D \in (BC)$

D - mij' BC .



Met I (congruența)
 $\triangle ADB$ și $\triangle ADC$ (dr)

$AB \equiv AC$

$AD \equiv AD$

ci
 $\implies \triangle ADB \equiv \triangle ADC$

$\implies BD \equiv DC$

$\implies D$ - mij' BC .

Met II (limi' importante)

$\triangle ABC$ is

$AD \perp BC \implies AD$ - înălțime

} $\implies AD$ - mediană
} $\implies D$ - mij' BC

Tema p 104 ex 12, 15, 16, 21.