Arii

$$A_{\triangle oarecare} = \frac{b \cdot h}{2}$$

$$A_{\triangle oarecare} = \frac{l_1 \cdot l_2 \cdot \sin(\widehat{l_1, l_2})}{2}$$

$$A_{\triangle oarecare} = \sqrt{p(p-a)(p-b)(p-c)},$$

$$p = \frac{a+b+c}{2}$$

$$A_{\triangle echilateral} = \frac{l^2\sqrt{3}}{4}, \quad h_{\triangle echilateral} = \frac{l\sqrt{3}}{2}$$

$$A_{\triangle dreptunghic} = \frac{c_1 \cdot c_2}{2}, h_{\triangle dreptunghic} = \frac{c_1 \cdot c_2}{ip}$$

$$A_{\triangle paralelogram} = b \cdot h = l_1 \cdot l_2 \cdot \sin(\widehat{l_1, l_2})$$

$$A_{dreptunghi} = L \cdot l$$

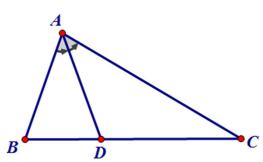
$$A_{romb} = \frac{d_1 \cdot d_2}{2} = b \cdot h$$

$$A_{pătrat} = l^2, d_{pătrat} = l\sqrt{2}$$

$$A_{trapez} = \frac{(B+b)\cdot h}{2}$$

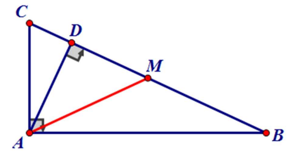
$$A_{patrulater} = \frac{d_1 \cdot d_2 \cdot \sin(\widehat{d_1, d_2})}{2}$$

Teorema bisectoarei



$$\left.\begin{array}{l} \triangle ABC \\ [AD \text{ bisectoare} \\ AD \cap BC = \{D\} \end{array}\right\} \Rightarrow \frac{AB}{AC} = \frac{BD}{DC}$$

Relații metrice în triunghiul dreptunghic



Teorema înălțimii	Teorema catetei
$AD^2 = CD \cdot DB$ $AD = \frac{c_1 \cdot c_2}{ip} = \frac{AB \cdot AC}{BC}$	$AC^2 = CD \cdot CB$ $AB^2 = BD \cdot BC$
Teorema lui Pitagora	**Mediana în tr. dreptunghic**
$ip^2 = c_1^2 + c_2^2$ $CB^2 = AC^2 + AB^2$	$Mediana = \frac{ip}{2}$ $AM = \frac{BC}{2}$

x		30^0	45^0	60^0
$\sin x$	$\sin x = \frac{c.op.}{ip.}$	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$
$\cos x$	$\cos x = \frac{c.al.}{ip.}$	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$
$tg\ x$	$tg\ x = \frac{c.op.}{c.al.}$	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$
$ctg\ x$	$ctg\ x = \frac{c.al.}{c.op.}$	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$

Cazurile de congruență ale triunghiului oarecare
L.U.L. ; U.L.U. ; L.L.L.
Cazurile de congruență ale triunghiului dreptunghic
C.C.; C.U. ;I.C.; I.U.
Cazurile de asemănare
L.L.L.; L.U.L.; U.U.

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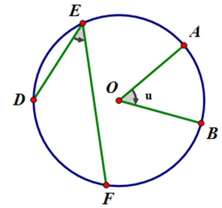
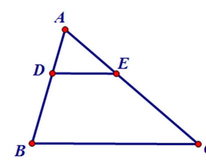
Cercul



Lungime cerc
$L_{cerc} = 2\pi R$
Arie disc
$A_{disc} = \pi R^2$

Unghi la centru	Unghi înscris în cerc
$m(\sphericalangle AOB) = m(\overset{\frown}{AB})$	$m(\sphericalangle DEF) = \frac{m(\overset{\frown}{DF})}{2}$
$L_{\overset{\frown}{AB}} = \frac{u\pi R}{180}$	$A_{sector} = \frac{u\pi R^2}{360}$
Raza cercului înscris în triunghi	**Raza cercului circumscris triunghiului**
$r = \frac{A_\triangle}{p}, p = \frac{a+b+c}{2}$	$R = \frac{abc}{4 \cdot A_\triangle}$



Teorema lui Thales

$$\left.\begin{array}{l} \triangle ABC \\ DE \parallel BC \end{array}\right\} \Rightarrow \frac{AD}{DB} = \frac{AE}{EC}$$

Teorema fundamentală a asemănării

$$\left.\begin{array}{l} \triangle ABC \\ DE \parallel BC \end{array}\right\} \Rightarrow \triangle ADE \sim \triangle ABC$$

$$\triangle ABC \sim \triangle A'B'C' \Leftrightarrow$$

$$\sphericalangle A \equiv \sphericalangle A'; \sphericalangle B \equiv \sphericalangle B'; \sphericalangle C \equiv \sphericalangle C'$$

$$\frac{AB}{A'B'} = \frac{AC}{A'C'} = \frac{BC}{B'C'}$$