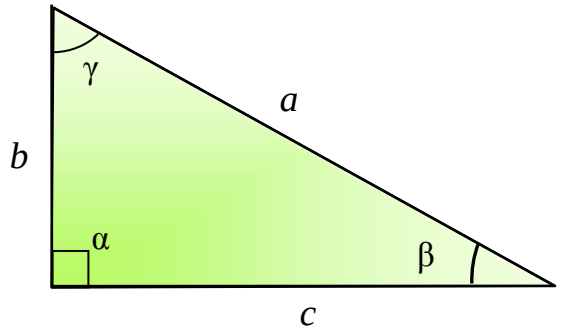
Triangoli Rettangoli

in riferimento al triangolo rettangolo in figura, risolvi i triangoli di cui sono noti



1	$a = 30 \quad c = 15$	$b = 15\sqrt{3} \quad \beta = 60°$ $\gamma = 30°$
2	$b = 10 \quad \gamma = 30°$	$a = \frac{20\sqrt{3}}{3} \quad c = \frac{10\sqrt{3}}{3}$ $\beta = 60°$
3	$c = 7 \quad \gamma = 15°$	$a = 7(\sqrt{6} + \sqrt{2})$ $b = 14 + 7\sqrt{3} \quad \beta = 75°$
4	$b = 5{,}5 \quad \beta = 45°$	$a = \frac{11\sqrt{2}}{2} \quad c = 5{,}5$ $\gamma = 45°$
5	$c = 8{,}2 \quad \beta = 60°$	$a = \frac{82}{5} \quad b = \frac{41\sqrt{3}}{5}$ $\gamma = 30°$
6	$a = 9 \quad \gamma = 45°$	$b = \frac{9\sqrt{2}}{2} \quad c = \frac{9\sqrt{2}}{2}$ $\beta = 45°$
7	$b = 15 \quad c = 15\sqrt{3}$	$a = 30 \quad \beta = 30° \quad \gamma = 60°$
8	$a = 6 \quad b = 3\sqrt{3}$	$c = 3 \quad \beta = 60° \quad \gamma = 30°$
9	$b = 5 \quad \beta = 60°$	$a = \frac{10\sqrt{3}}{3} \quad c = \frac{5\sqrt{3}}{3}$ $\gamma = 30°$
10	$a = 6{,}4 \quad \beta = 45°$	$b = \frac{16\sqrt{2}}{5} \quad c = \frac{16\sqrt{2}}{5}$ $\gamma = 45°$
11	$c = 22 \quad \beta = 60°$	$a = 44 \quad b = 22\sqrt{3}$ $\gamma = 30°$
12	$a = 2 + \sqrt{2} \quad c = 1 + \sqrt{2}$	$b = \sqrt{2} + 1 \quad \beta = 45°$ $\gamma = 45°$
13	$b = \sqrt{6} + \sqrt{8} \quad c = \sqrt{2}$	$a = 2(1 + \sqrt{3}) \quad \beta = 75°$ $\gamma = 15°$
14	$c = \frac{1}{2} \quad \beta = 45°$	$a = \frac{\sqrt{2}}{2} \quad b = \frac{1}{2} \quad \gamma = 45°$
15	$a = 4 \quad \gamma = 18°$	$b = \sqrt{10 + 2\sqrt{5}}$ $c = \sqrt{5} - 1$ $\beta = 72°$

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16	$b = \frac{1}{2} \quad \gamma = 22°30'$	$a = \frac{\sqrt{4-2\sqrt{2}}}{2}$ $c = \frac{\sqrt{3-2\sqrt{2}}}{2} \quad \beta = 67°30'$
17	$b = 18 \quad \beta = 30°$	$a = 36 \quad c = 18\sqrt{3}$ $\gamma = 60°$
18	$b = \sqrt{21} \quad c = \sqrt{7}$	$a = 2\sqrt{7} \quad \beta = 60°$ $\gamma = 30°$
19	$a = 2c \quad b = 1{,}5$	$a = \sqrt{3} \quad c = \frac{\sqrt{3}}{2}$ $\beta = 60°, \gamma = 30°$
20	$a = b\sqrt{2} \quad b = 5$	$a = 5\sqrt{2} \quad c = 5$ $\beta = 45° \quad \gamma = 45°$

verifica la correttezza delle seguenti relazioni algebriche tra gli elementi del triangolo rettangolo in figura

21	$sen^2\alpha + sen^2\beta + sen^2\gamma = 2$	*corretta*
22	$cos^2\alpha + cos^2\beta + cos^2\gamma = 1$	*corretta*
23	$tg\ \beta = \frac{sen\ \beta}{sen\ \gamma}$	*corretta*
24	$a + b + c = a\ (sen\ \beta(sen\ \beta + 1) + \cos\beta\ (\cos\beta + 1))$	*corretta*
25	$a\ sen\frac{\beta}{2} cos\frac{\beta}{2} = \frac{b}{2}$	*corretta*
26	$(c + b)^2 = a^2 cos^2\beta (tg\ \beta + 1)^2$	*corretta*
27	$a^2 - c^2 = c^2 tg^2\beta$	*non corretta*
28	$a^2 - c^2 = 2\ ab\ ctg\ \frac{\beta}{2}\ sen^2\frac{\beta}{2}$	*corretta*
29	$\frac{b + c}{2} = a\ sen\frac{\beta}{2} cos\frac{\beta}{2}(1 + ctg\ \beta)$	*corretta*
30	$\frac{b + c}{2} = \frac{a}{2}(cos\frac{\beta}{2} + sen\frac{\beta}{2}(1 + \sqrt{2})(cos\frac{\beta}{2} + sen\frac{\beta}{2}(1 + \sqrt{2})))$	*non corretta*
31	$b^2 = \frac{a^2 sen\ 2\gamma\ sen\ \beta}{2\ sen\ \gamma}$	*corretta*
32	$\frac{a^2}{b^2} = \frac{1 + tg^2\beta}{tg^2\beta}$	*corretta*
33	$2\ bc = a^2 sen\ 2\beta$	*corretta*
34	$\frac{c^2}{cos^2\beta} = a^2 + a\ tg^2\beta - ab\frac{tg\ \beta}{cos\beta}$	*non corretta*
35	$sen^2\gamma + sen^2\beta + tg^2\beta = \frac{1}{cos^2\beta}$	*corretta*

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36	$b^2 = a^2 sen^4\beta + a^2 cos^2\gamma \, cos^2\beta$	*corretta*
37	$\left(\frac{a}{b}\right)^2 tg^{\,2}\beta = \frac{sen^2\gamma + sen^2\beta}{cos^2\beta}$	*non corretta*