26/11/2018

TRIGONOMETRIA
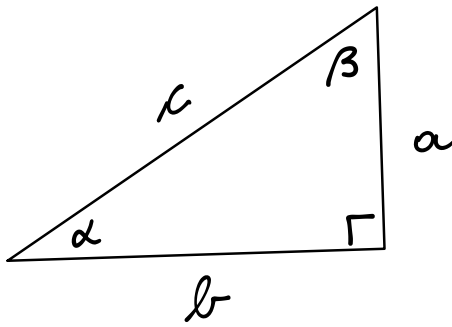
CATETO ADIACENTE AD α

$$b = c \cdot \cos\alpha \qquad \| \qquad b = c \cdot \sin\beta$$

$$a = c \cdot \sin\alpha \qquad \| \qquad a = c \cdot \cos\beta$$

CATETO OPPOSTO AD α

$$\boxed{\alpha = \frac{\pi}{2} - \beta}$$

$$a = b \cdot \tan\alpha \qquad\qquad b = a \cdot \tan\beta$$

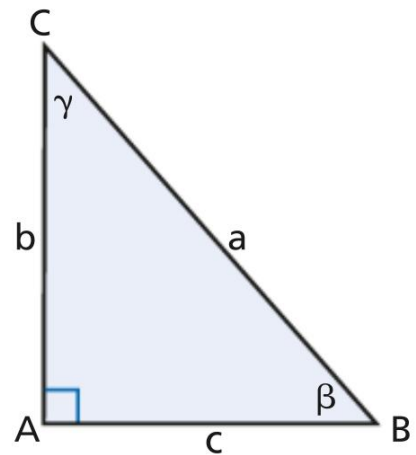ESERCIZI = Risolvere i triangoli rettangoli [a IPOTENUSA]

10 $a = 24;$ $\beta = 60°.$

$$\alpha = 90° \qquad\qquad \gamma = 90° - \beta = 30°$$

$$c = a \cos\beta = 24 \cdot \cos 60° = 24 \cdot \frac{1}{2} = 12$$
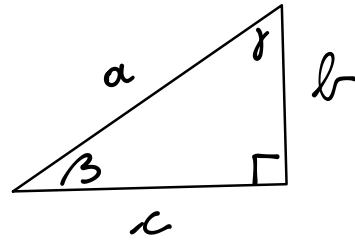
$$b = a \cdot \sin\beta = 24 \cdot \sin 60° = 24 \cdot \frac{\sqrt{3}}{2} =$$

$$= 12\sqrt{3}$$

20

$c = 15;$ $\qquad \beta = \arctan \frac{3}{5}$

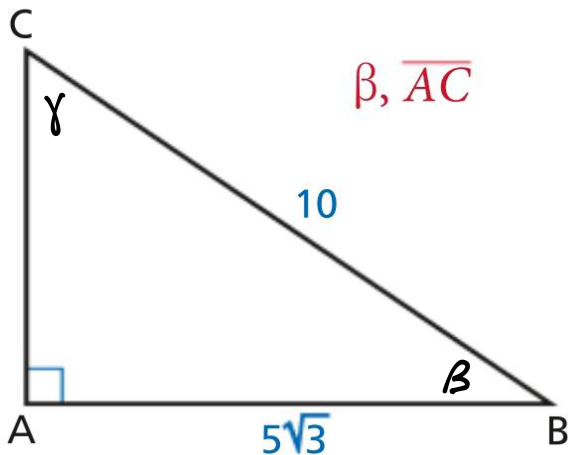$b = c \cdot \tan \beta = 15 \cdot \tan \left(\arctan \frac{3}{5} \right) =$

$= \cancel{15} \cdot \frac{3}{\cancel{5}_1} = 9$

$\gamma = 90° - \arctan \frac{3}{5} \cong$

$\cong 59°$

$a = \sqrt{9^2 + 15^2} = 17,49\ldots \simeq 17,5$

52

$\beta, \overline{AC}$

$5\sqrt{3}$

$[30°; 5]$

$\overline{BC} \cdot \cos \beta = \overline{AB}$

$\cos \beta = \frac{\overline{AB}}{\overline{BC}} = \frac{5\sqrt{3}}{10} = \frac{\sqrt{3}}{2}$

$\beta = 30° \implies \gamma = 60°$

$\overline{AC} = \overline{BC} \cdot \sin \beta =$

$= 10 \cdot \sin 30° = 10 \cdot \frac{1}{2} = 5$