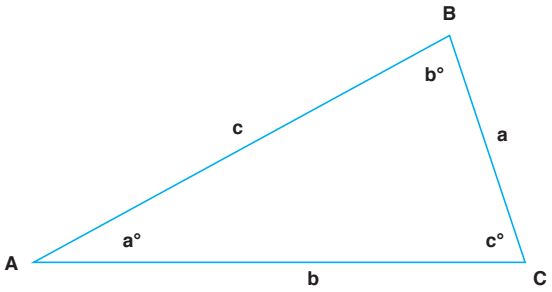
Cheatsheet Math & Trigonometry

Triangle



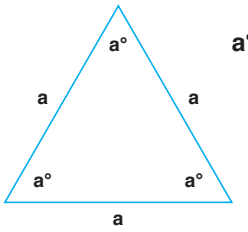
$a° + b° + c° = 180$

$\sin(a°) = a / c$ $\quad a = \sin(a°) * c$

$\cos(a°) = b / c$ $\quad b = \cos(a°) * c$

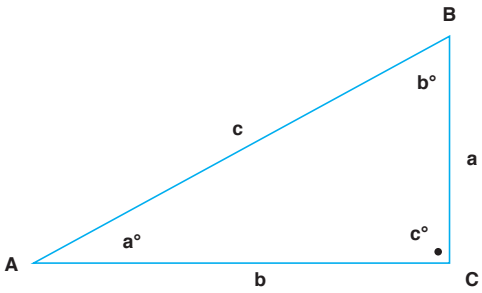
$\tan(a°) = a / b$ $\quad a = \tan(a°) * b$

$a / \sin(a°) = b / \sin(b°) = c / \sin(c°)$



$a° = 60$

Right Triangle



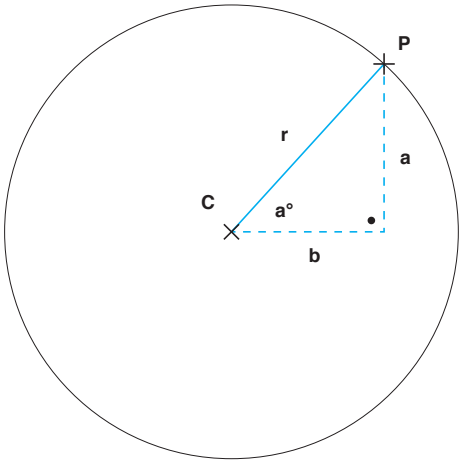
$c° = 90$

$c2 = a2 + b2$ $\quad c = \sqrt{(a2 + b2)}$

$a = \sqrt{(c2 - b2)}$

$b = \sqrt{(c2 - a2)}$

Polar Coordinates and the Circle



$a = P_Y - C_Y$

$b = P_X - C_X$

$r = \sqrt{(a2 + b2)}$

	if $C \neq (0, 0)$
$P_X = \cos(a°) * r$	$+ C_X$
$P_Y = \sin(a°) * r$	$+ C_Y$