The sum of the interior angles of a triangle is 180 degrees.
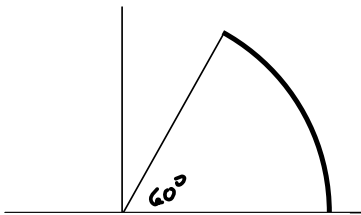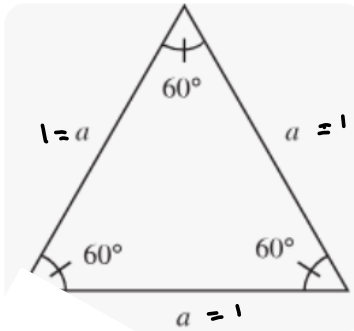
An equilateral triangle has 3 equal interior angles of 60 degrees.

$60°$

$1 = a$ $a = 1$

$60°$ $60°$

$a = 1$

$60°$

The point (x, y) is on the unit circle, so $\cos 60° =$

and $\sin(60°) =$

(x, y)

y

1 1

$y = \frac{\sqrt{3}}{2}$

$60°$

$x = \frac{1}{2}$ $\frac{1}{2}$ x

By Pythagoras,

$\left(\frac{1}{2}\right)^2 + y^2 = 1$

$y^2 = 1 - \frac{1}{4} = \frac{3}{4}$

$y = \pm\sqrt{\frac{3}{4}} = \pm\frac{\sqrt{3}}{2}$

QI

$y = \frac{\sqrt{3}}{2}$, so

$x = \cos 60° = \frac{1}{2}$

$y = \sin 60° = \frac{\sqrt{3}}{2}$