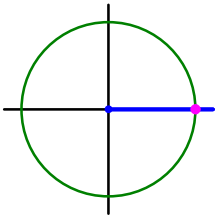
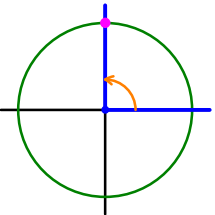
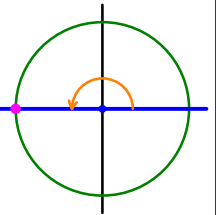
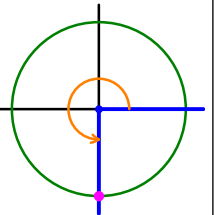
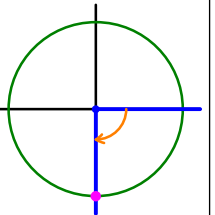
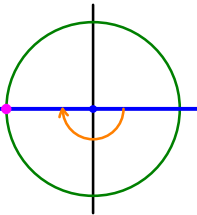


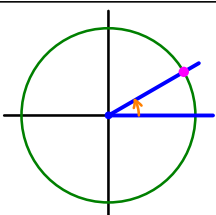
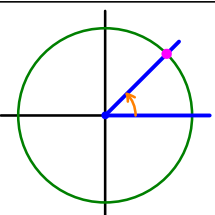
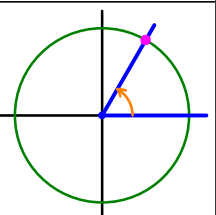
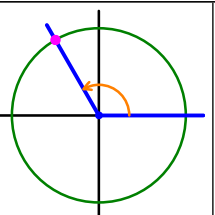
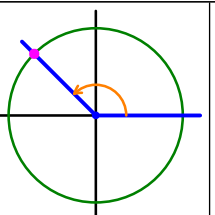
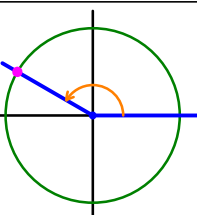
Ángulos muy utilizados

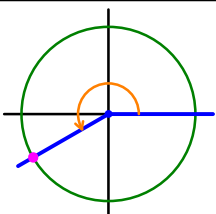
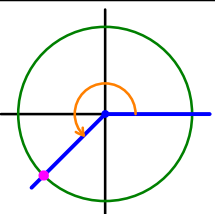
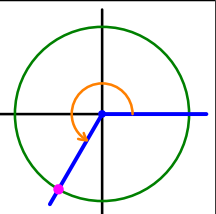
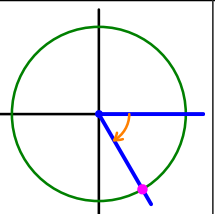
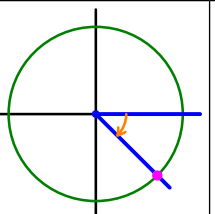
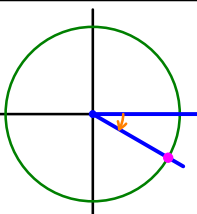
Como sabes del nivel 4, los ángulos 30° , 45° y 60° son importantes. Por eso, vamos a ilustrar los puntos que representan ángulos que tienen relación con ellos; lo veremos cuadrante a cuadrante. También es importante que te habitues a los ángulos frontera entre cuadrantes. Además, mostraremos los valores de los ángulos tanto en grados sexagesimales como en radianes, para que te vayas acostumbrando.

Ángulos frontera entre cuadrantes

					
$0^\circ = 0 \text{ rad} = 0$	$90^\circ = \frac{\pi}{2} \text{ rad}$	$180^\circ = \pi \text{ rad}$	$270^\circ = \frac{3\pi}{2} \text{ rad}$	$-90^\circ = -\frac{\pi}{2} \text{ rad}$	$-180^\circ = -\pi \text{ rad}$
$P_0 = (1,0)$	$P_{90^\circ} = (0,1)$	$P_{180^\circ} = (-1,0)$	$P_{270^\circ} = (0,-1)$	$P_{-90^\circ} = (0,-1)$	$P_{-180^\circ} = (-1,0)$

Ángulos en los cuatro cuadrantes

Primer cuadrante			Segundo cuadrante		
					
$30^\circ = \frac{\pi}{6} \text{ rad}$	$45^\circ = \frac{\pi}{4} \text{ rad}$	$60^\circ = \frac{\pi}{3} \text{ rad}$	$120^\circ = \frac{2\pi}{3} \text{ rad}$	$135^\circ = \frac{3\pi}{4} \text{ rad}$	$150^\circ = \frac{5\pi}{6} \text{ rad}$
$P_{30^\circ} = \left(\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$	$P_{45^\circ} = \left(\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$	$P_{60^\circ} = \left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$	$P_{120^\circ} = \left(-\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$	$P_{135^\circ} = \left(-\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$	$P_{150^\circ} = \left(-\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$

Tercer cuadrante			Cuarto cuadrante		
					
$210^\circ = \frac{7\pi}{6} \text{ rad}$	$225^\circ = \frac{5\pi}{4} \text{ rad}$	$240^\circ = \frac{4\pi}{3} \text{ rad}$	$-60^\circ = -\frac{\pi}{3} \text{ rad}$	$-45^\circ = -\frac{\pi}{4} \text{ rad}$	$-30^\circ = -\frac{\pi}{6} \text{ rad}$
$P_{210^\circ} = \left(-\frac{\sqrt{3}}{2}, -\frac{1}{2}\right)$	$P_{225^\circ} = \left(-\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2}\right)$	$P_{240^\circ} = \left(-\frac{1}{2}, -\frac{\sqrt{3}}{2}\right)$	$P_{-60^\circ} = \left(\frac{1}{2}, -\frac{\sqrt{3}}{2}\right)$	$P_{-45^\circ} = \left(\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2}\right)$	$P_{-30^\circ} = \left(\frac{\sqrt{3}}{2}, -\frac{1}{2}\right)$

Nota: los ángulos del cuarto cuadrante también se pueden expresar como ángulos del intervalo $(270^\circ, 360^\circ)$; en radianes, $\left(\frac{3\pi}{2}, 2\pi\right)$. Inténtalo tú. Es menos habitual.