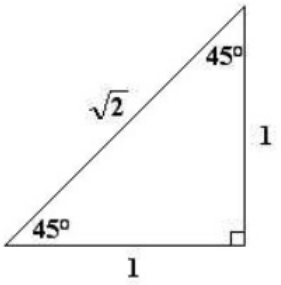
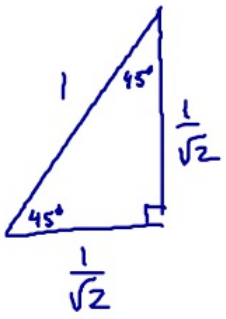
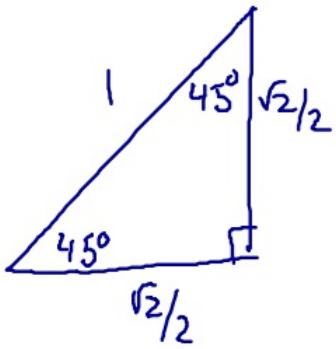
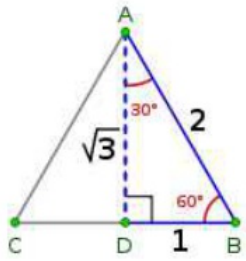


45 – 45 - 90 Triangle

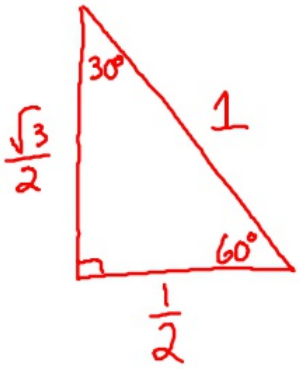


$$\frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$





30 – 60 – 90 Triangle



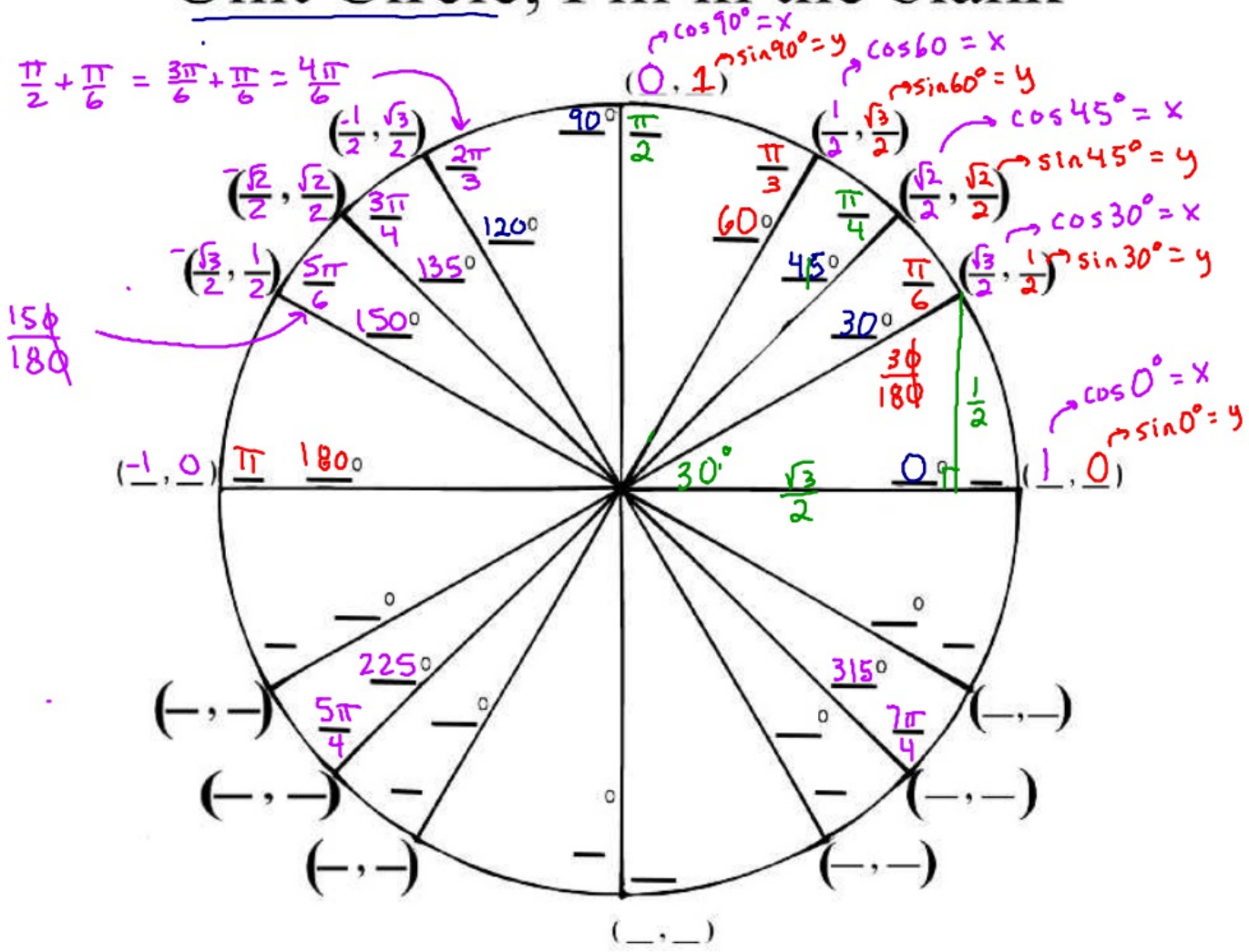
To Remember your 1st Quad Trig ratios (x and y coord)

y ↑ x →

	sinθ	cosθ	tanθ
π/6 = 30°	1/2	√3/2	1/√3
π/4 = 45°	√2/2	√2/2	1
π/3 = 60°	√3/2	1/2	√3

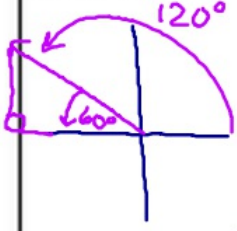
ratio

Unit Circle, Fill in the blank



Evaluate without using a calculator by using ratios in a reference triangle.

A) $\sin 120^\circ$ → y-coord in quad II



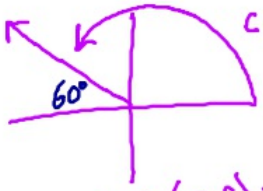
$\sin 120^\circ = \frac{\sqrt{3}}{2}$

↑ angle ↑ ratio

B) $\cos\frac{2\pi}{3}$ → x coord in quad II

$\cos 2\left(\frac{\pi}{3}\right)$

$\cos 120^\circ = -\frac{1}{2}$



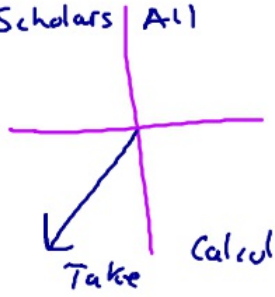
counterclock +

$\cot(-30^\circ) = -\sqrt{3}$

Reference angle 45° →

C) $\tan\frac{13\pi}{4} = 1$ or -1

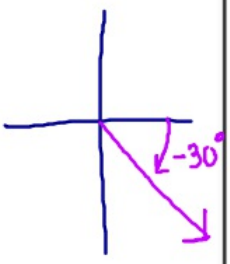
1
13
×45
65
52
585
−360
225°



D) $\cot\frac{-13\pi}{6} = \sqrt{3}$ or $-\sqrt{3}$

Reference angle = 30°

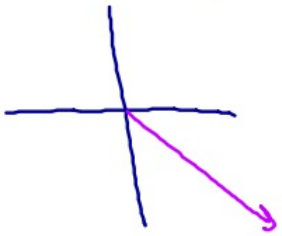
13
×30
390
−360
30



Reference 45°

E) $\csc\frac{7\pi}{4} = \frac{2}{\sqrt{2}}$ or $\frac{-2}{\sqrt{2}}$

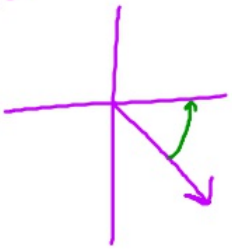
3
45
7
315



F) $\sec\frac{23\pi}{6} = \frac{2}{\sqrt{3}}$ or $\frac{-2}{\sqrt{3}}$

Reference = 30°

23
30
690
−360
330



Find sine, cosine, and tangent for the given angle.