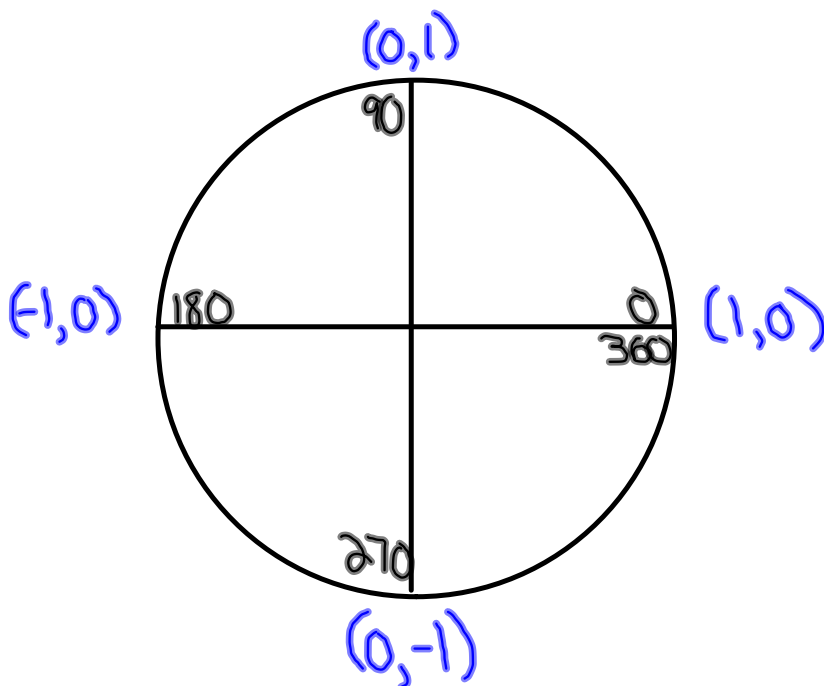
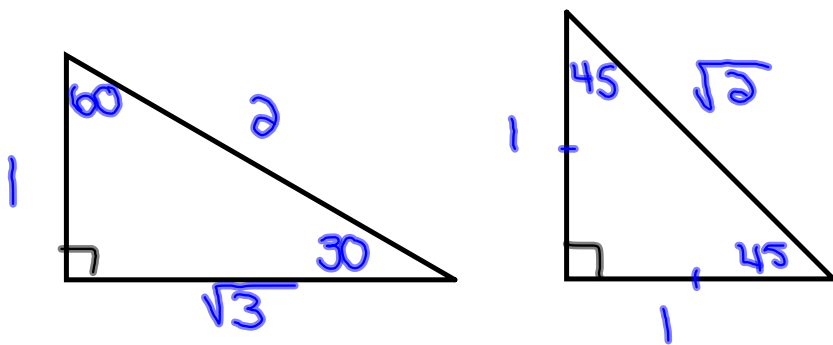


Warm-Up

Draw the special angle triangles and the unit circle.



$$\sin \theta = y$$

$$\cos \theta = x$$

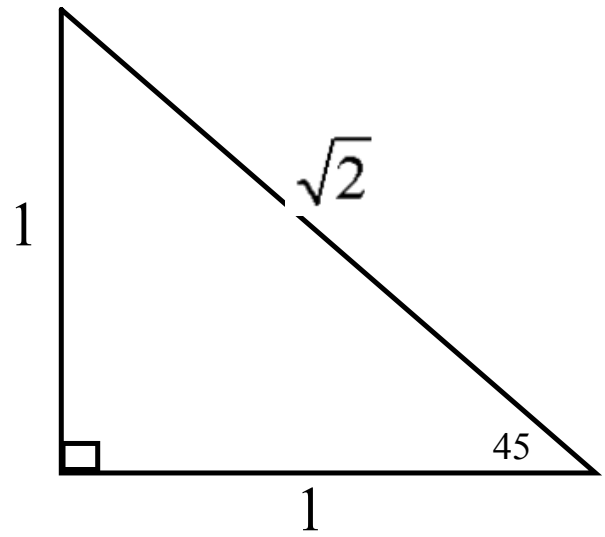
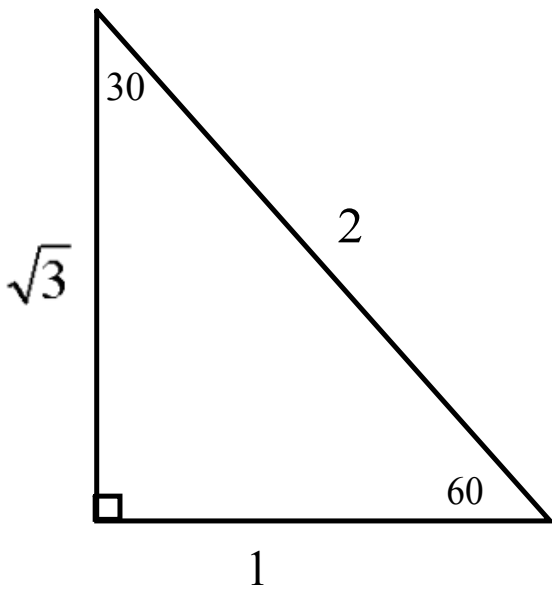
$$\tan \theta = \frac{y}{x}$$

$$\csc \theta = \frac{1}{y}$$

$$\sec \theta = \frac{1}{x}$$

$$\cot \theta = \frac{x}{y}$$

Quiz



Special Angles

	30	60
Sin	$\frac{1}{2}$	$\frac{\sqrt{3}}{2}$
Cos	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$
Tan	$\frac{1}{\sqrt{3}} = \frac{\sqrt{3}}{3}$	$\sqrt{3}$

	45
Sin	$\frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$
Cos	$\frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$
Tan	1

Quadrantal Angles

	0°	90°	180°	270°	360°
$\sin(y)$	0	1	0	-1	0
$\cos(x)$	1	0	-1	0	1
$\tan(y/x)$	0	undefined	0	undefined	0

Calculate the following!

$$\sin 60^\circ + \cos 30^\circ$$

$$\left(\frac{\sqrt{3}}{2}\right) + \left(\frac{\sqrt{3}}{2}\right)$$

$$\frac{\cancel{2}\sqrt{3}}{\cancel{2}}$$

$$\boxed{\sqrt{3}}$$

$$\sin^2 30^\circ + \cos 45^\circ - \cos 90^\circ$$

$$\left(\frac{1}{2}\right)^2 + \left(\frac{\sqrt{2}}{2}\right) - (0)$$

$$\frac{1}{4} + \frac{\sqrt{2}}{2}$$

$$\frac{1}{4} + \frac{2\sqrt{2}}{4}$$

$$\boxed{\frac{1+2\sqrt{2}}{4}}$$

$$\sin^2 60^\circ - \csc 30^\circ \sec^2 45^\circ + \sec 180^\circ$$

$$\left(\frac{\sqrt{3}}{2}\right)^2 - (2)(\sqrt{2})^2 + (-1)$$

$$\frac{3}{4} - (2)(2) - 1$$

$$\frac{3}{4} - 4 - 1$$

$$\frac{3}{4} - 5$$

$$\frac{3}{4} - \frac{20}{4}$$

$$\boxed{\frac{-17}{4}}$$

And now for the grand finale...if you can handle this one, you should give yourself a nice pat on the back.

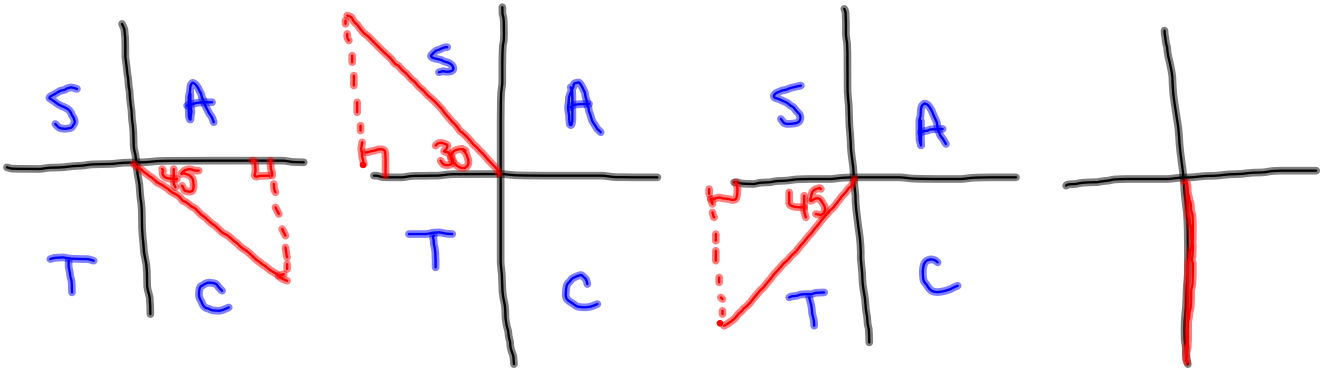


Without a calculator determine the value of

$$\sec^2 315^\circ - \sin(-210^\circ) + 2 \cot^2 585^\circ \sin(-450^\circ)$$



PA(315°) PA(150°) PA(225°) PA(270°)



$$(+\sqrt{2})^2 - \left(+\frac{1}{2}\right) + 2(+1)^2(-1)$$

$$2 - \frac{1}{2} - 2$$

$$\boxed{-\frac{1}{2}}$$

Questions from Homework

f) $\sin 30^\circ + \cos 60^\circ$

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

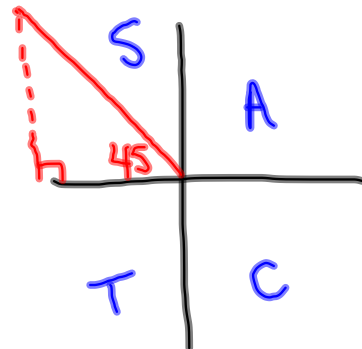
$$\boxed{1}$$

i) $2 \sin 60^\circ \cos 135^\circ$

$$\cancel{2} \left(\frac{\sqrt{3}}{\cancel{2}}\right) \left(\frac{-\sqrt{2}}{2}\right)$$

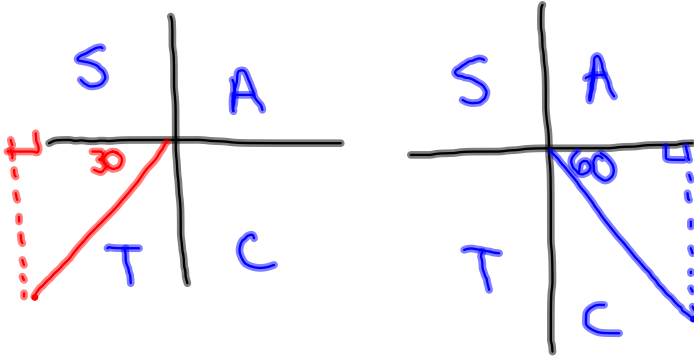
$$(\sqrt{3}) \left(\frac{-\sqrt{2}}{2}\right)$$

$$\boxed{\frac{-\sqrt{6}}{2}}$$



PA 300°

$$m) \sin 210^\circ \cos(-60^\circ) + \cos 30^\circ \sin 60^\circ$$



$$\left(\frac{-1}{2}\right)\left(\frac{1}{2}\right) + \left(\frac{\sqrt{3}}{2}\right)\left(\frac{\sqrt{3}}{2}\right)$$

$$\frac{-1}{4} + \frac{3}{4}$$

$$= \frac{2}{4}$$

$$\boxed{\frac{1}{2}}$$

$$\frac{\sin 60^\circ}{\cos 30^\circ}$$

$$\frac{\left(\frac{\sqrt{3}}{2}\right)}{\left(\frac{\sqrt{3}}{2}\right)}$$

$$\boxed{1}$$

$$\frac{4 \sin 30^\circ}{\sin 90^\circ + 2 \cos 60^\circ}$$

$$\frac{4 \left(\frac{1}{2}\right)}{1 + 2 \left(\frac{1}{2}\right)}$$

$$\frac{2}{1+1}$$

$$\frac{2}{2}$$
$$\boxed{1}$$

$$\frac{2 \sin 210^\circ}{\sin 90^\circ + 2 \cos 120^\circ}$$

$$\frac{2 \left(-\frac{1}{2}\right)}{1 + 2 \left(-\frac{1}{2}\right)}$$

$$\frac{-1}{1 + (-1)}$$

$$\boxed{\frac{-1}{0}} \rightarrow \text{Undefined}$$

