

Name: Key

Hour: _____ Date: _____

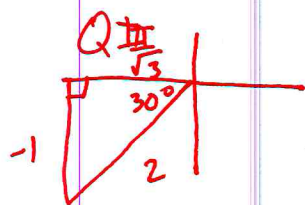
Solving Trig Equations Notes II

Review from Monday:

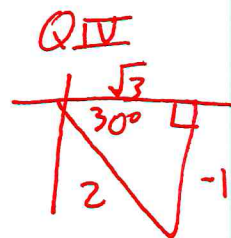
Find both solutions to the following equations for $0^\circ \leq \theta \leq 360^\circ$.

$$\sin \theta = -\frac{1}{2}$$

Q III Q IV



$$\theta = 180^\circ + 30^\circ = 210^\circ$$



$$\theta = 360^\circ - 30^\circ = 330^\circ$$

What if we have equations that aren't quite as "nice"?

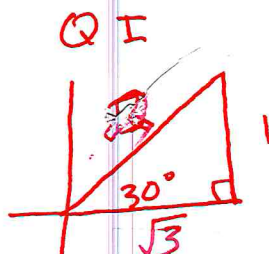
Get the trig function alone first!

Examples: Find both solutions to the following equations for $0^\circ \leq \theta \leq 360^\circ$.

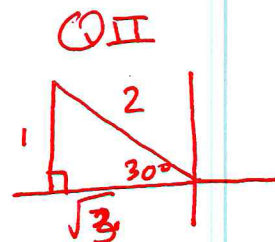
$$1) \frac{4 \sin \theta}{4} = \frac{2}{4}$$

$$\sin \theta = \frac{1}{2}$$

Q I Q II



$$\theta = 30^\circ$$



$$\theta = 180^\circ - 30^\circ = 150^\circ$$

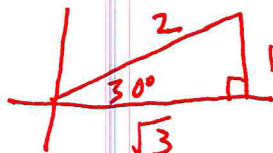
$$2) 4 \cos \theta - 2\sqrt{3} = 0$$

$$+2\sqrt{3} +2\sqrt{3}$$

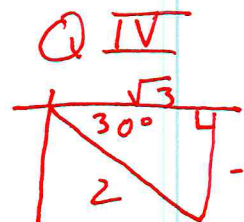
$$\frac{4 \cos \theta}{4} = \frac{2\sqrt{3}}{4}$$

$$\cos \theta = \frac{\sqrt{3}}{2}$$

Q I



$$\theta = 30^\circ$$



$$\theta = 360^\circ - 30^\circ = 330^\circ$$

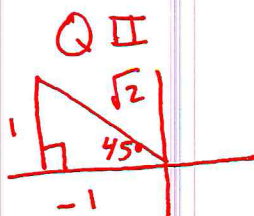
$$3) 100 \tan \theta + 100 = 0$$

$$-100 -100$$

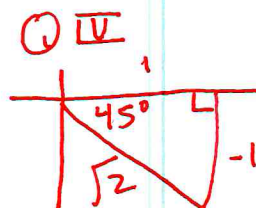
$$\frac{100 \tan \theta}{100} = \frac{-100}{100}$$

$$\tan \theta = -1$$

Q II Q IV



$$\theta = 180^\circ - 45^\circ = 135^\circ$$



$$\theta = 360^\circ - 45^\circ = 315^\circ$$