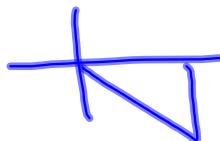
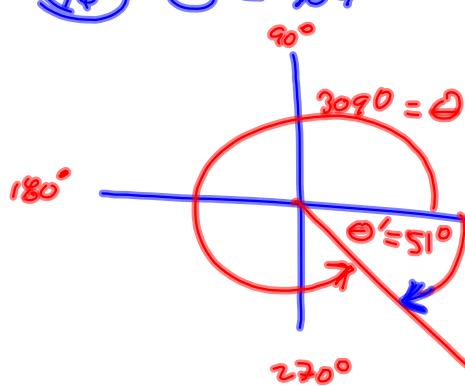


S 1.4 cont'd
#s 45-52

Find ref. angle $\angle \theta'$ & sketch
 $\theta \neq \theta'$ (α) in std position.

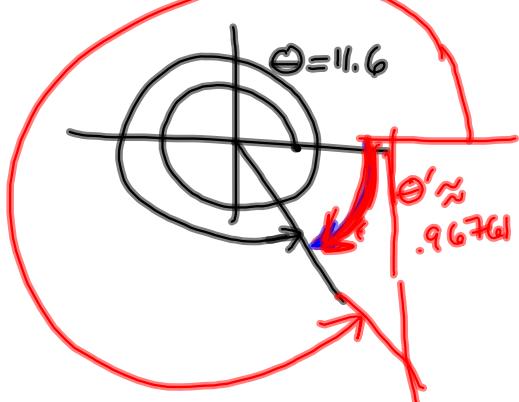
(46) $\theta = 309^\circ$



$$360^\circ \leftrightarrow 0^\circ$$

How many times around

(52) $\theta = 11.6$



$$\frac{11.6}{2\pi} = 1.846$$

1 time around
+ .846 around

$$\theta' = \frac{2\pi - .846(2\pi)}{2}$$

Radians for a full rotation Radians for .846 of a rotation

Radians for that what's left over

$$2 \cdot \pi - .846 \cdot 2 \cdot \pi$$

$$0.308\pi$$

$$\text{evalf}(\%)$$

$$0.9676105374 = \theta'$$

$$(52) \quad \theta = 11.6$$

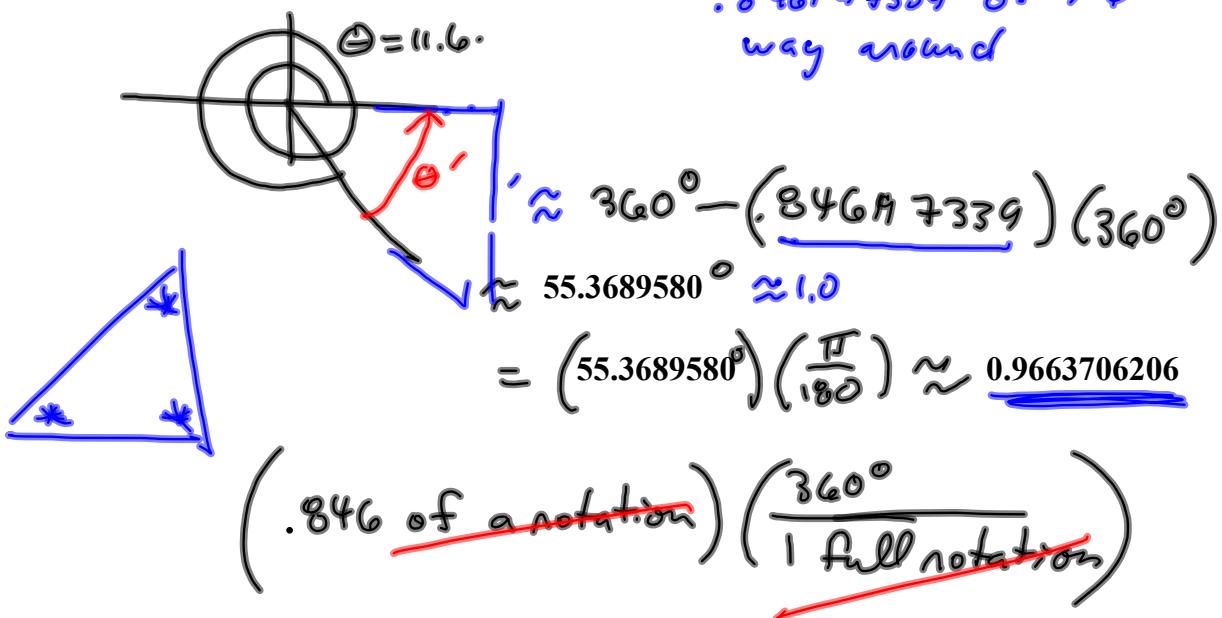
$$\text{evalf}\left(\frac{11.6 \cdot 180}{\pi}\right)$$

$$(11.6)\left(\frac{180^\circ}{\pi}\right) \approx 664.610422^\circ \quad 664.610422$$

$\frac{664.610422}{360} \approx 1.846197339$ times around the circle.

$$1 + .846197339$$

.846197339 of the way around

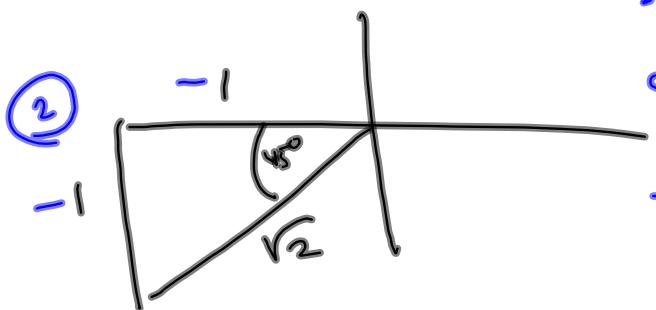


#s 53-68 Find sine, cosine & tangent w/o calculator.

(53)

$$\theta = 225^\circ$$

(2)

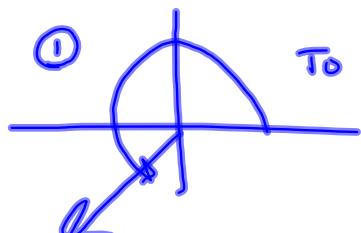


$$\sin \theta = -\frac{1}{\sqrt{2}}$$

$$\cos \theta = -\frac{1}{\sqrt{2}}$$

$$\tan \theta = 1$$

(1)



To home in on it

(66)

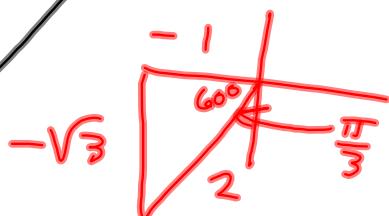
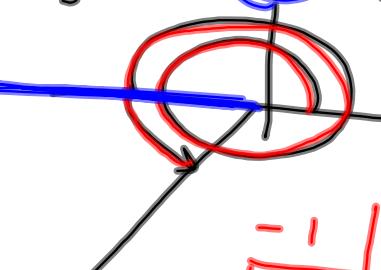
$$\frac{10\pi}{3}$$

$$\sin \frac{10\pi}{3} = -\frac{\sqrt{3}}{2}$$

$$\cos \frac{10\pi}{3} = -\frac{1}{2}$$

$$\tan \frac{10\pi}{3} = \sqrt{3}$$

$$\frac{9\pi + 1\pi}{3} = 3\pi + \frac{\pi}{3}$$

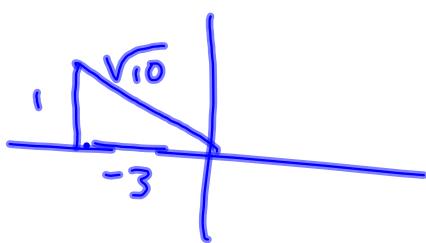
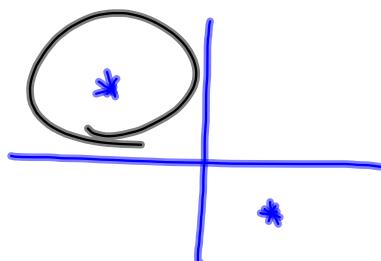


#s 69-74 Mech

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

(70)

$$\cot \theta = -3 \text{ & it's in QII}$$

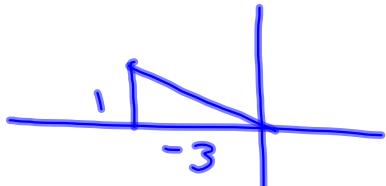


$$\text{Find } \sin \theta = \frac{1}{\sqrt{10}}$$

Book may be wanted

$$\cot \theta = \frac{\cos \theta}{\sin \theta}$$

-3 Never Mind



$$\frac{1}{\sqrt{10}}$$

$$\frac{\sqrt{10}}{10}$$

75-89 Round to 4 places

$$\cot(178^\circ) \approx -28.6363$$

```
tan(178)
-.0349207695
1/Ans
-28.63625328
tan(178)^-1
-28.63625328
```



Clay's way's a little slicker

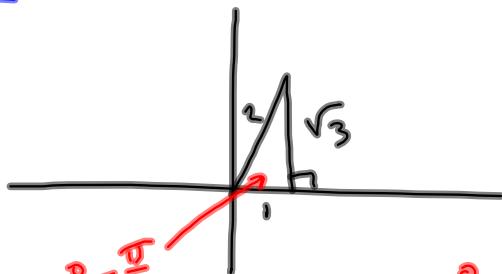
#s 91-96 find 2 solns in degrees &
radians.

$$0 \leq \theta < 360^\circ \quad 0 \leq \theta < 2\pi$$

(94)

$$\sec \theta = 2$$

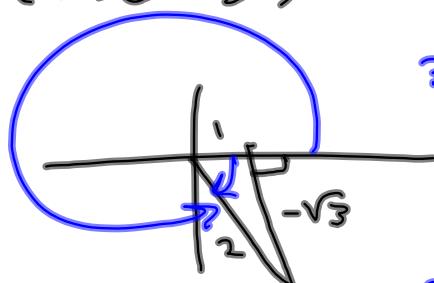
$$(\cos \theta = \frac{1}{2})$$



$$60^\circ = \frac{\pi}{3}$$

$$\theta = 60^\circ \text{ OR } 2\pi$$

$$\theta = 300^\circ \text{ OR } \frac{5\pi}{3}$$



?

$$\frac{3 \cdot 2\pi}{3} = \frac{\pi}{3}$$