

1. $\sin\left(-\frac{\pi}{4}\right) = \boxed{-\frac{\sqrt{2}}{2}}$

2. $\tan\frac{\pi}{6} = \frac{\frac{1}{2}}{\frac{\sqrt{3}}{2}} \rightarrow \boxed{\frac{1}{\sqrt{3}}}$

3. $\cos\frac{5\pi}{6} = \boxed{-\frac{\sqrt{3}}{2}}$

4. $\tan\frac{\pi}{4} = \frac{\frac{\sqrt{2}}{2}}{\frac{\sqrt{2}}{2}} = \boxed{1}$

5. $\cos\frac{7\pi}{6} = \boxed{-\frac{\sqrt{3}}{2}}$

6. $\cos\frac{7\pi}{4} = \boxed{\frac{\sqrt{2}}{2}}$

CAH
ADJ
OPP

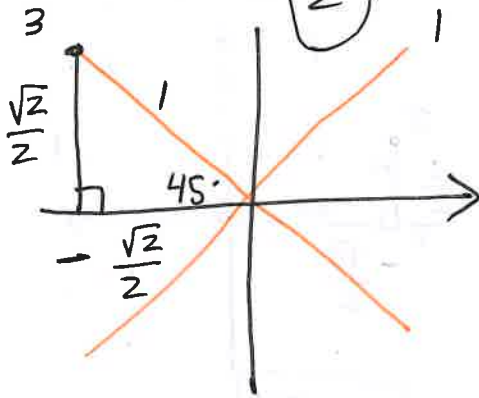
7. $\sin\frac{11\pi}{6} = \boxed{-\frac{1}{2}}$

8. $\sin\frac{5\pi}{4} = \boxed{-\frac{\sqrt{2}}{2}}$

9. $\tan\left(-\frac{\pi}{6}\right) = \frac{-\frac{1}{2}}{\frac{\sqrt{3}}{2}} \rightarrow \boxed{-\frac{1}{\sqrt{3}}}$

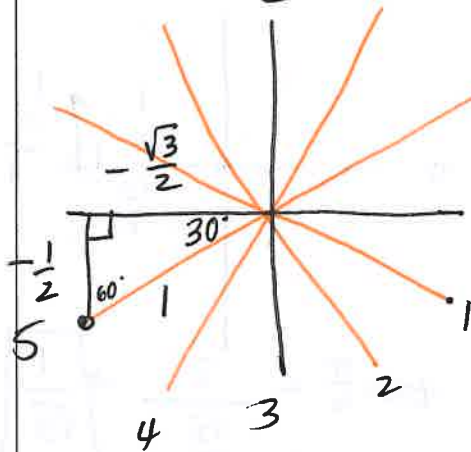
$$10. \tan \frac{3\pi}{4} =$$

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



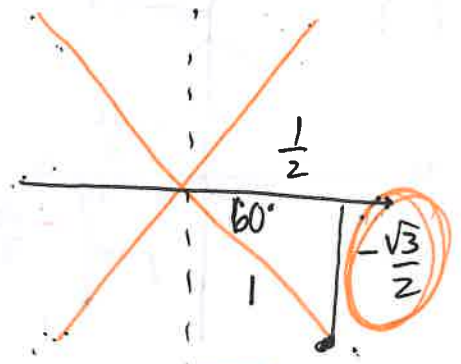
$$11. \sin\left(-\frac{5\pi}{6}\right) =$$

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



$$12. \sin\left(-\frac{37\pi}{3}\right) = +6\left(\frac{6\pi}{3}\right) = -\frac{\pi}{3}$$

COTERMINAL



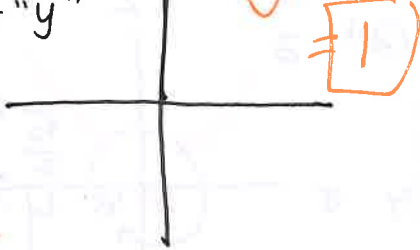
$$= -\frac{\sqrt{3}}{2}$$

$$13. \sin \frac{\pi}{2} =$$

$$x \ y$$

$$(0, 1)$$

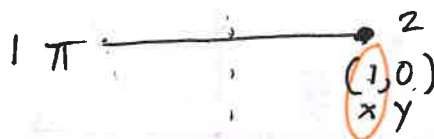
$$\sin \theta = "y"$$



$$14. \cos 2\pi =$$

$$\cos \theta = "x"$$

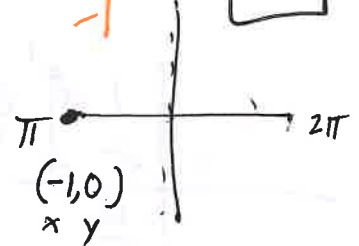
$$1$$



$$15. \tan 3\pi =$$

$$\frac{0}{-1} \rightarrow$$

$$0$$

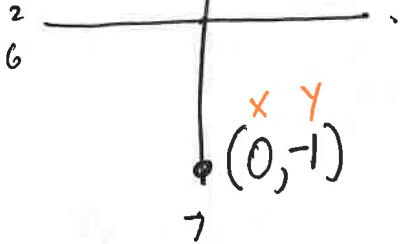


$$\tan \theta = \frac{y}{x}$$

$$16. \sin \frac{7\pi}{2} =$$

$$-1$$

$$\sin \theta = "y"$$



$$17. \cos \pi =$$

$$-1$$

$$\cos \theta = "x"$$

$$x \ y$$

$$(-1, 0)$$



18. Convert 190° to radians.

$$190^\circ \left(\frac{\pi}{180^\circ} \right)$$

$$\frac{190\pi}{180}$$

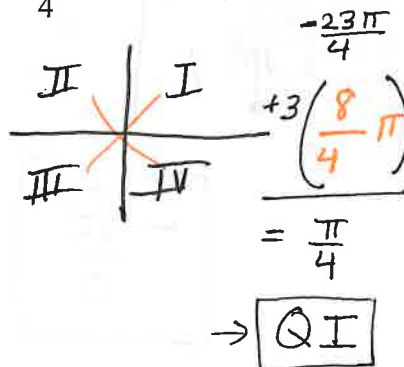
19. Convert $\frac{7\pi}{6}$ to degrees.

$$\frac{7\pi}{6} \left(\frac{180^\circ}{\pi} \right)$$

$$7(30)$$

$$210^\circ$$

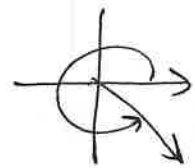
20. $-\frac{23\pi}{4}$ is in which quadrant?



$$\rightarrow \text{QI}$$

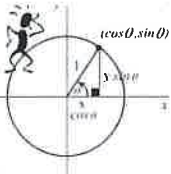
21. $\frac{17\pi}{3}$ is in which quadrant?

$$-\frac{2(6)}{3}$$

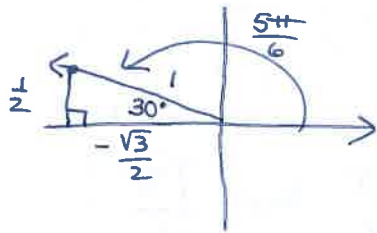


$$\text{QIV}$$

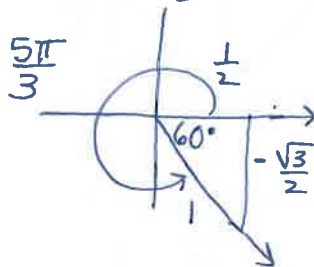
Sketch angle, show triangle with side lengths, state the exact value for the given trig ratio and the box your a



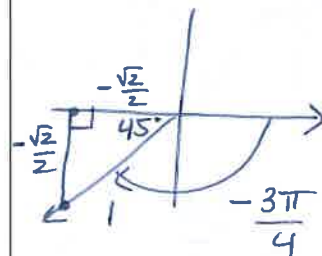
1. $\sin \frac{5\pi}{6} = \boxed{\frac{1}{2}}$



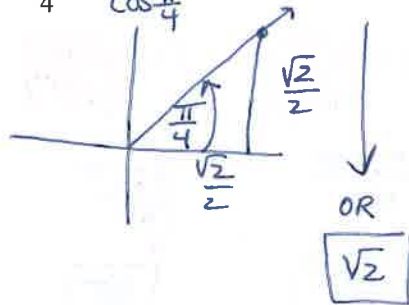
2. $\tan \frac{5\pi}{3} = \frac{-\frac{\sqrt{3}}{2}}{\frac{1}{2}} \rightarrow \boxed{-\sqrt{3}}$



3. $\cos \left(-\frac{3\pi}{4}\right) = \boxed{\frac{-\sqrt{2}}{2}}$

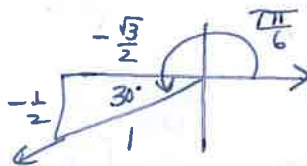


4. $\sec \frac{\pi}{4} = \frac{1}{\cos \frac{\pi}{4}} \rightarrow \frac{2}{\sqrt{2}}$



5. $\csc \frac{19\pi}{6} = \frac{1}{\sin \frac{12\pi}{6}}$

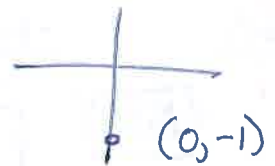
$\csc \frac{7\pi}{6} =$



$\csc \frac{7\pi}{6} = \frac{1}{\sin \frac{7\pi}{6}}$
 $= \boxed{-2}$

6. $\cot \frac{7\pi}{2} = \frac{4\pi}{2}$

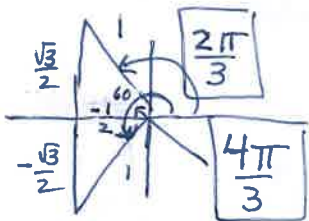
$\cot \frac{3\pi}{2} = \frac{1}{\tan \frac{3\pi}{2}}$



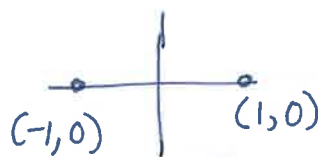
$\cot \frac{3\pi}{2} = \frac{x}{y} \rightarrow \frac{0}{-1} \rightarrow \boxed{0}$

Without a calculator, solve for 2 values of θ in radians between $0 \leq \theta < 2\pi$. Exact values.

7. $\cos \theta = -\frac{1}{2}$

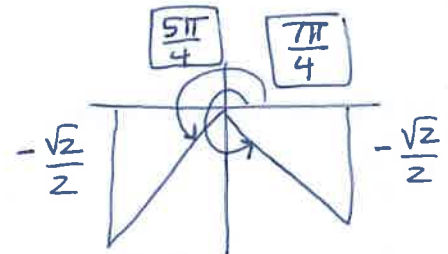


8. $\tan \theta = 0 = \frac{y}{x}$

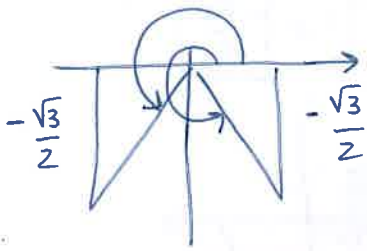


$\boxed{0, \pi}$

9. $\csc \theta = -\sqrt{2}$ $\sin \theta = -\frac{\sqrt{2}}{2}$

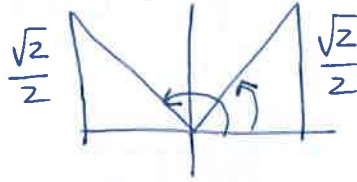


$$10 \sin \theta = -\frac{\sqrt{3}}{2}$$



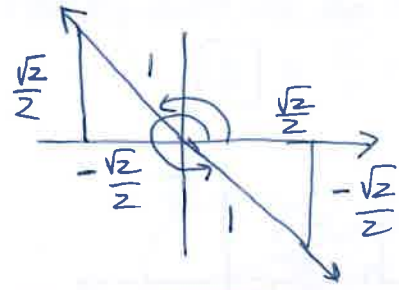
$$\frac{4\pi}{3}, \frac{5\pi}{3}$$

$$11 \sin \theta = \frac{\sqrt{2}}{2}$$



$$\frac{\pi}{4}, \frac{3\pi}{4}$$

$$12. \tan \theta = -1$$



$$\frac{3\pi}{4} \text{ and } \frac{7\pi}{4}$$

13. Give the degree equivalent.

a) $\frac{5\pi}{6}$

$$\frac{5\pi}{6} \left(\frac{180^\circ}{\pi} \right)$$

$$\rightarrow \frac{5(180^\circ)}{6}$$

$$= 150^\circ$$

b) $-\frac{5\pi}{3}$

$$-\frac{5\pi}{3} \left(\frac{180^\circ}{\pi} \right)$$

$$-5 \left(\frac{180^\circ}{3} \right)$$

$$= -300^\circ$$

c) $\frac{3\pi}{4}$

$$\frac{3\pi}{4} \left(\frac{180^\circ}{\pi} \right)$$

$$\frac{3(180^\circ)}{4}$$

$$= 135^\circ$$

14. Give the radian equivalent

a) 120°

$$120 \left(\frac{\pi}{180} \right)$$

$$\frac{120\pi}{180}$$

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

b) -270°

$$-270 \left(\frac{\pi}{180} \right)$$

$$-\frac{270\pi}{180}$$

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

c) 300°

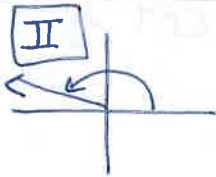
$$300 \left(\frac{\pi}{180} \right)$$

$$\frac{300\pi}{180}$$

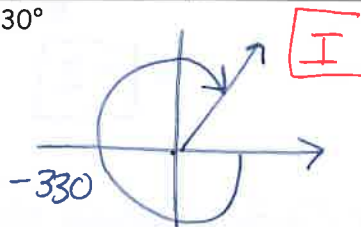
$$= \frac{5\pi}{3}$$

15. If each angle is in standard position, state what quadrant the terminal side is in

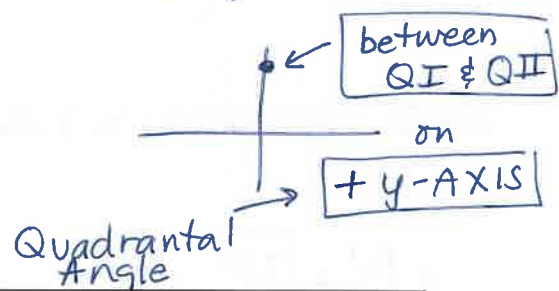
a) $\frac{12\pi}{13}$



b) -330°

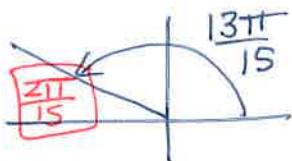


c) $\frac{21\pi}{2} - 5 \left(\frac{4\pi}{2} \right) = \frac{\pi}{2}$

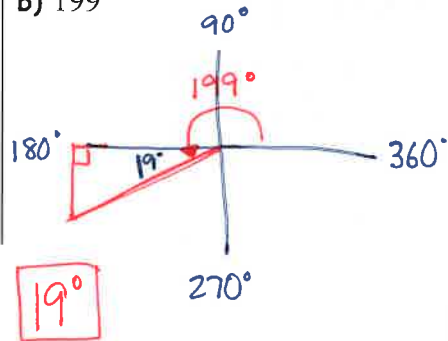


16. Find the reference angle.

a) $\frac{13\pi}{15}$

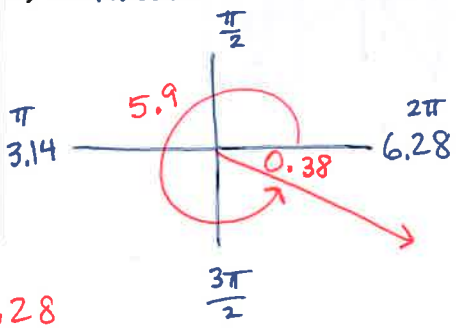


b) 199°



$$19^\circ$$

c) 5.9 radian



$$\frac{6.28 - 5.9}{.38}$$

$$0.38$$