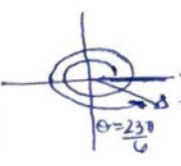


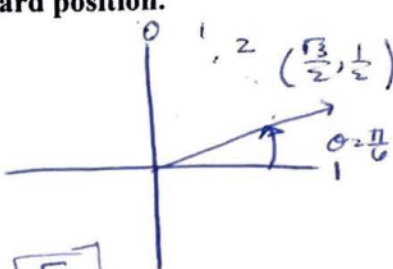
Sec 4.2 Part 2 Evaluate Trigonometric Functions

Find the exact value of each trigonometric function and sketch the angle in standard position.

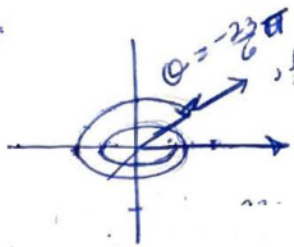
1)  $\cos \frac{23\pi}{6} \rightarrow 3 \frac{5\pi}{6}$   
 $\cos \frac{11\pi}{6} \rightarrow \cos(\frac{\pi}{6})$   
 $\boxed{\frac{\sqrt{3}}{2}}$



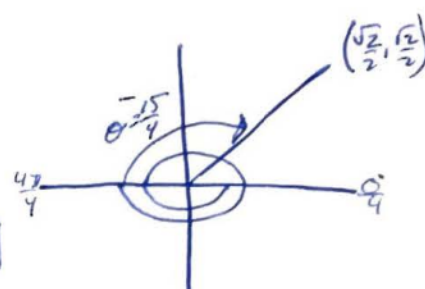
2)  $\tan \frac{\pi}{6} = \frac{y}{x}$   
 $= \frac{1}{\sqrt{3}}$   
 $= \frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \boxed{\frac{\sqrt{3}}{3}}$



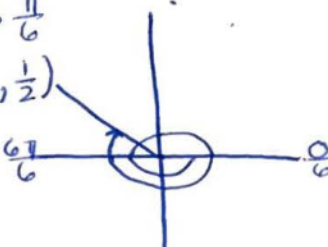
3)  $\csc -\frac{23\pi}{6} = -3 \frac{5\pi}{6}$   
 $\frac{1}{y}$   
 $\frac{1}{-1/2} = \boxed{-2}$



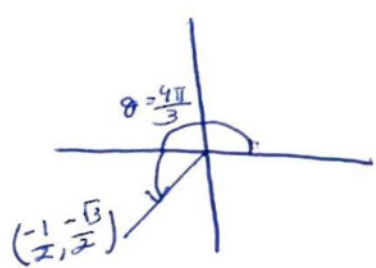
4)  $\sec -\frac{15\pi}{4} = -3 \frac{3\pi}{4}$   
 $\frac{1}{x}$   
 $\frac{1}{-1/\sqrt{2}} = -\sqrt{2} = \boxed{-\sqrt{2}}$



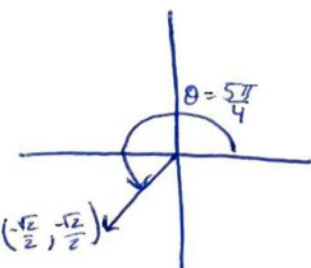
5)  $\cos -\frac{19\pi}{6} = -3 \frac{\pi}{6}$   
 $x$   
 $\boxed{-\frac{\sqrt{3}}{2}}$



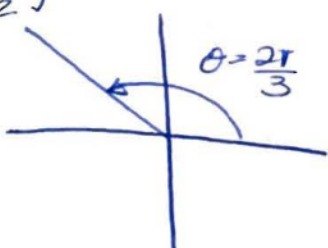
6)  $\cot \frac{4\pi}{3} \frac{1}{\frac{\pi}{3}}$   
 $\cot \theta = \frac{x}{y}$   
 $= \frac{-1}{-1/\sqrt{3}} = \boxed{\frac{\sqrt{3}}{3}}$



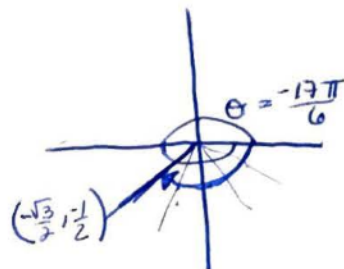
7)  $\csc \frac{5\pi}{4} = 4 \frac{\pi}{4}$   
 $\frac{1}{y}$   
 $\frac{1}{-1/\sqrt{2}} = -\sqrt{2} = \boxed{-\sqrt{2}}$



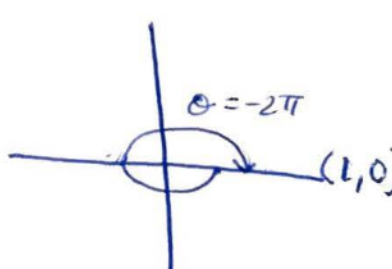
8)  $\sin \frac{2\pi}{3} \frac{y}{1}$   
 $\boxed{\frac{\sqrt{3}}{2}}$



9)  $\sec -\frac{17\pi}{6} = -2 \frac{5\pi}{6}$   
 $\frac{1}{x}$   
 $\frac{1}{-1/\sqrt{3}} = -\sqrt{3} = \boxed{-\sqrt{3}}$



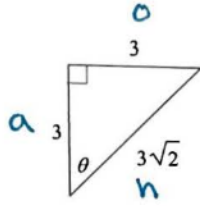
10)  $\tan -2\pi$   
 $\frac{y}{x}$   
 $= \frac{0}{1} = \boxed{0}$



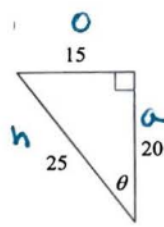
# Soh Cah Toa

Find the exact value of the six trigonometric functions of the angle, as shown in figure

11)

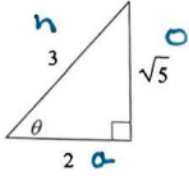


$$\begin{aligned} \sin \theta &= \frac{3}{3\sqrt{2}} = \frac{\sqrt{2}}{2} & \csc \theta &= \sqrt{2} \cdot 12 \\ \cos \theta &= \frac{3}{3\sqrt{2}} = \frac{\sqrt{2}}{2} & \sec \theta &= \sqrt{2} \\ \tan \theta &= 1 & \cot \theta &= 1 \end{aligned}$$



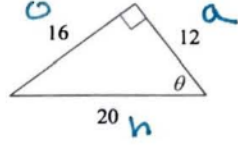
$$\begin{aligned} \sin \theta &= \frac{15}{25} = \frac{3}{5} & \csc \theta &= \frac{5}{3} \\ \cos \theta &= \frac{20}{25} = \frac{4}{5} & \sec \theta &= \frac{5}{4} \\ \tan \theta &= \frac{15}{20} = \frac{3}{4} & \cot \theta &= \frac{4}{3} \end{aligned}$$

13)



$$\begin{aligned} \sin \theta &= \frac{3}{3\sqrt{5}} = \frac{\sqrt{5}}{5} & \csc \theta &= \frac{3\sqrt{5}}{3} \\ \cos \theta &= \frac{2}{3} & \sec \theta &= \frac{3}{2} \\ \tan \theta &= \frac{\sqrt{5}}{2} & \cot \theta &= \frac{2\sqrt{5}}{5} \end{aligned}$$

14)



$$\begin{aligned} \sin \theta &= \frac{16}{20} = \frac{4}{5} & \csc \theta &= \frac{5}{4} \\ \cos \theta &= \frac{12}{20} = \frac{3}{5} & \sec \theta &= \frac{5}{3} \\ \tan \theta &= \frac{16}{12} = \frac{4}{3} & \cot \theta &= \frac{3}{4} \end{aligned}$$