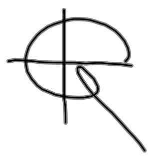
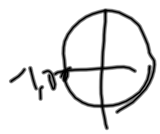
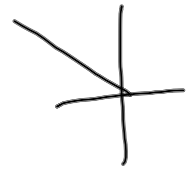
Evaluate

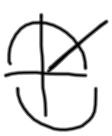
a. $\cos\left(\frac{7\pi}{4}\right) = +\frac{\sqrt{2}}{2}$ b. $\tan(-3\pi) = \frac{0}{-1} = 0$ c. $\sin\left(\frac{5\pi}{6}\right) = +\frac{1}{2}$





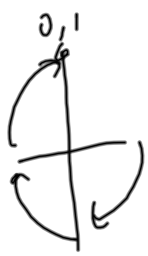


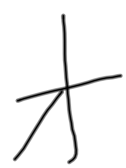
d. $\tan\left(\frac{7\pi}{3}\right) = \frac{\frac{\sqrt{3}}{2}}{\frac{1}{2}}$ e. $\cos\left(-\frac{3\pi}{2}\right) = 0$ f. $\sin\left(-\frac{3\pi}{4}\right) = -\frac{\sqrt{2}}{2}$



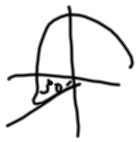
$= \frac{\sqrt{3}}{2} \cdot \frac{2}{1}$

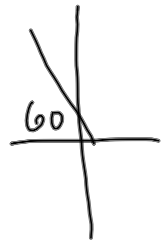
$= \sqrt{3}$

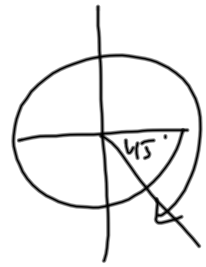




g. $\cos(210°) = -\frac{\sqrt{3}}{2}$ h. $\sin(120°) = +\frac{\sqrt{3}}{2}$ i. $\tan(-405°) = -1$

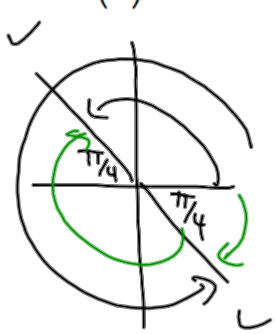






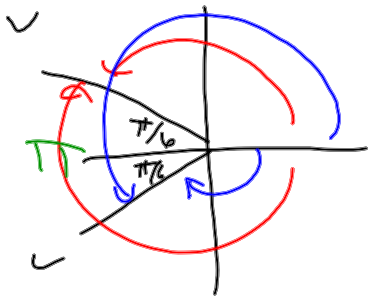
Determine four answers for the angle θ on the interval $-2\pi < \theta < 2\pi$.

a. $\tan(\theta) = -1$



Q II	Q IV
$\frac{3\pi}{4}$	$\frac{7\pi}{4}$
$-\frac{5\pi}{4}$	$-\frac{\pi}{4}$

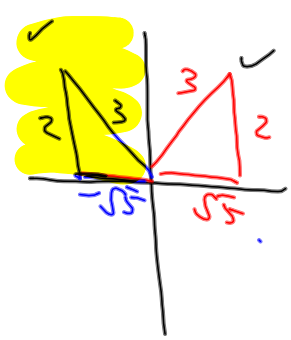
b. $\cos(\theta) = -\frac{\sqrt{3}}{2}$



Q II	Q III
$\frac{5\pi}{6}$	$7\pi/6$
$-\frac{7\pi}{6}$	$-\frac{5\pi}{6}$

Suppose that $\sin\theta = \frac{2}{3}$ and $\frac{\pi}{2} \le \theta \le \pi$. Find the other 5 trigonometric ratios.

$x^2 + y^2 = r^2$
$x^2 + 2^2 = 3^2$
$x^2 + 4 = 9$
$x^2 = 5$
$x = \pm\sqrt{5}$

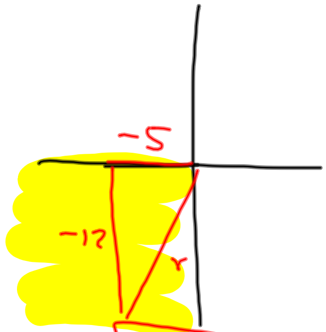


$\sin\theta = \frac{2}{3} = \frac{y}{r}$ $\csc\theta = \frac{3}{2}$

$\cos\theta = \frac{x}{r} = \frac{-\sqrt{5}}{3}$ $\sec\theta = -\frac{3}{\sqrt{5}} = -\frac{3\sqrt{5}}{5}$

$\tan\theta = \frac{y}{x} = \frac{-2}{\sqrt{5}} = \frac{2\sqrt{5}}{5}$ $\cot\theta = -\frac{\sqrt{5}}{2}$

Suppose that $\tan\theta = \frac{12}{5}$ and $\pi \le \theta \le \frac{3\pi}{2}$. Find the other 5 trigonometric ratios.



$r = \sqrt{(5)^2 + (12)^2}$

$r = \sqrt{25 + 144}$

$r = \sqrt{169}$

$r = 13$

$\sin\theta = -\frac{12}{13}$

$\csc\theta = -\frac{13}{12}$

$\cos\theta = -\frac{5}{13}$

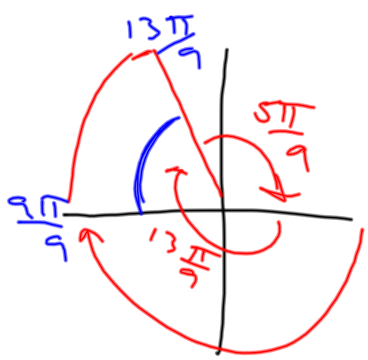
$\sec\theta = -\frac{13}{5}$

$\tan\theta = \frac{-12}{-5} \ \cancel{\pm} \ \frac{y}{x}$

$\cot\theta = +\frac{5}{12}$

$\boxed{11\text{G}}$

Reference ∡ $-\frac{13\pi}{9}$ * $= \frac{4\pi}{9}$

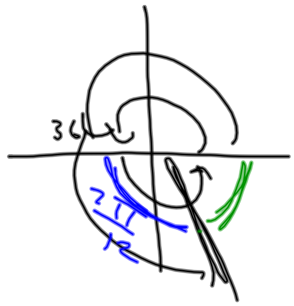


11 B

$\frac{43\pi}{12}$

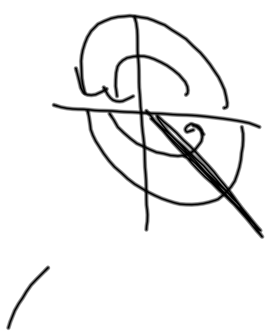
$\cancel{\frac{7\pi}{12}}$

$\frac{5\pi}{12}$



23 G)

$\sin \frac{15\pi}{4} = -\frac{\sqrt{2}}{2}$



1. $\overset{4}{\cancel{240°}} \cdot \dfrac{\pi}{\underset{3}{\cancel{180°}}}$

$\dfrac{4\pi}{3}$

10 b)

reference $\dfrac{4\pi}{3}$ is $\dfrac{\pi}{3}$

86)

$$\frac{8\cancel{\pi}}{\cancel{3}} \cdot \frac{\overset{60}{\cancel{180^\circ}}}{\cancel{\pi}} \quad 480^\circ$$