

Class practice problems (Quiz Review) Ch. 4.20

$$1) \sin^{-1}\left(\cos\left(\frac{2\pi}{3}\right)\right)$$

$$2) \tan\left(\sin^{-1}\left(-\frac{24}{25}\right)\right)$$

$$3) \cos\left(\tan^{-1}\left(\frac{\sqrt{17}}{2x}\right)\right)$$

$$4) \boxed{\text{Degrees}} \arcsin(-0.6789)$$

$$5) \boxed{\text{Radians}} \arccos(-0.1299)$$

* Recall:

$$\sin^{-1}(\theta) \rightarrow \text{Q1, Q4}$$

$$\tan^{-1}(\theta) \rightarrow \text{Q1, Q4}$$

$$\cos^{-1}(\theta) \rightarrow \text{Q1, Q2}$$

S	A
T	C

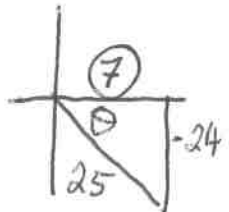
Class practice problems (Quiz Review)

Key

1) $\sin^{-1}\left(\cos\left(\frac{2\pi}{3}\right)\right)$

\downarrow
 $\sin^{-1}\left(-\frac{1}{2}\right)$
 \downarrow
 $\sin\theta = -\frac{1}{2}$ ← Q4
 $\theta = -\frac{\pi}{6}$

2) $\tan\left(\sin^{-1}\left(-\frac{24}{25}\right)\right)$

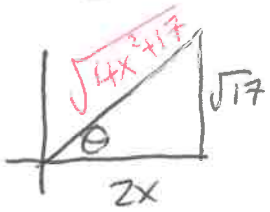
\downarrow
 $\sin\theta = -\frac{24}{25}$ ← Q4
 $\tan\theta = -\frac{24}{7}$

 $a^2 + 24^2 = 25^2$
 $a = 7$

Degrees

4) $\arcsin(-0.6789)$

← Q3, Q4
 $\sin\theta = -0.6789$
 $\theta = -43^\circ$

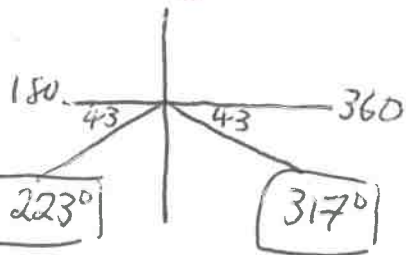
3) $\cos\left(\tan^{-1}\left(\frac{\sqrt{17}}{2x}\right)\right)$



$\tan\theta = \frac{\sqrt{17}}{2x}$

$(2x)^2 + \sqrt{17}^2 = c^2$

$c = \sqrt{4x^2 + 17}$
 $\cos\theta = \frac{2x}{\sqrt{4x^2 + 17}}$



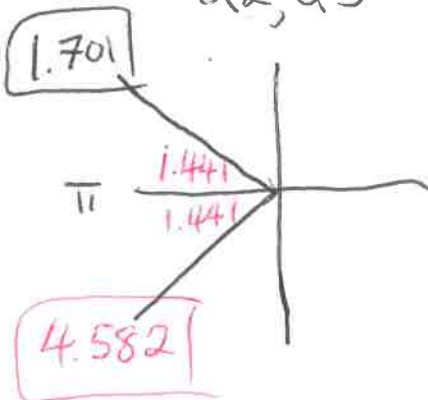
$\theta = 223^\circ$ and 317°

Radians

5) $\arccos(-0.1299)$

Q2, Q3

$\cos\theta = -0.1299$
 $\theta = 1.701$



$\theta = 1.701$ and 4.582