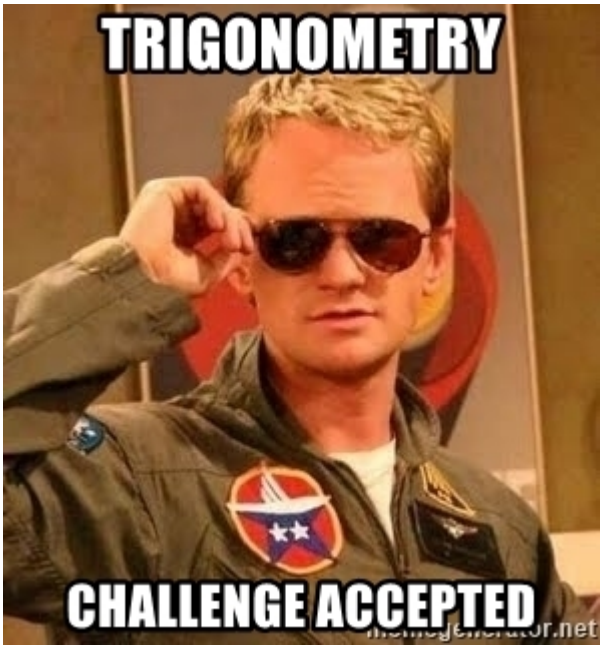
Trig Ratio: More of the Same



Solve for θ

$sin(\theta) = 0.5, 0^\circ \leq \theta < 360^\circ$

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

$\theta = \frac{5\pi}{6}$

$\theta = \frac{\pi}{6}$

S A T C

$cos(\theta) = -\frac{\sqrt{3}}{2}, 0^\circ \leq \theta < 360^\circ$

A

S

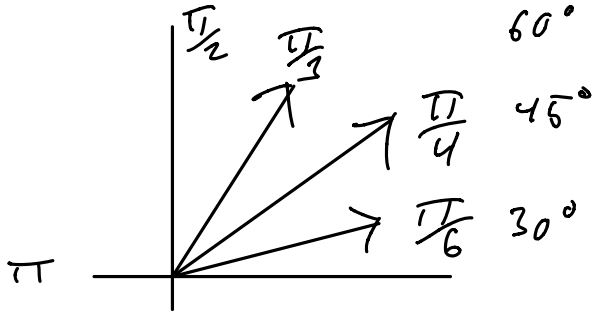
$\frac{5\pi}{6}$

$\frac{\pi}{6}$

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

T

C

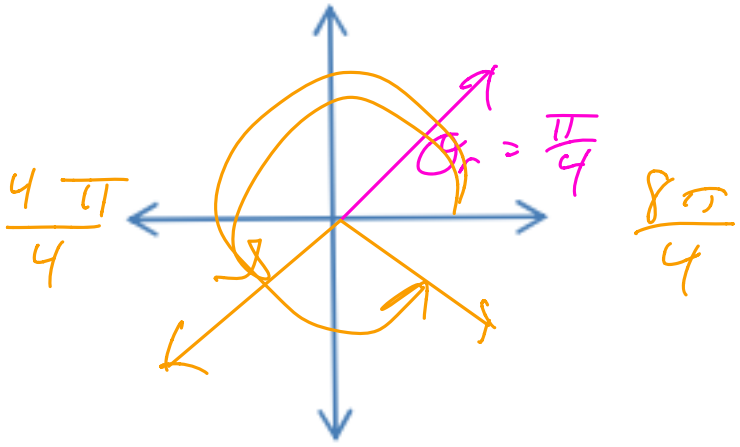


You try:

Solve for θ:

$sin(\theta) = -\frac{1}{\sqrt{2}}, 0° \leq \theta < 360°$

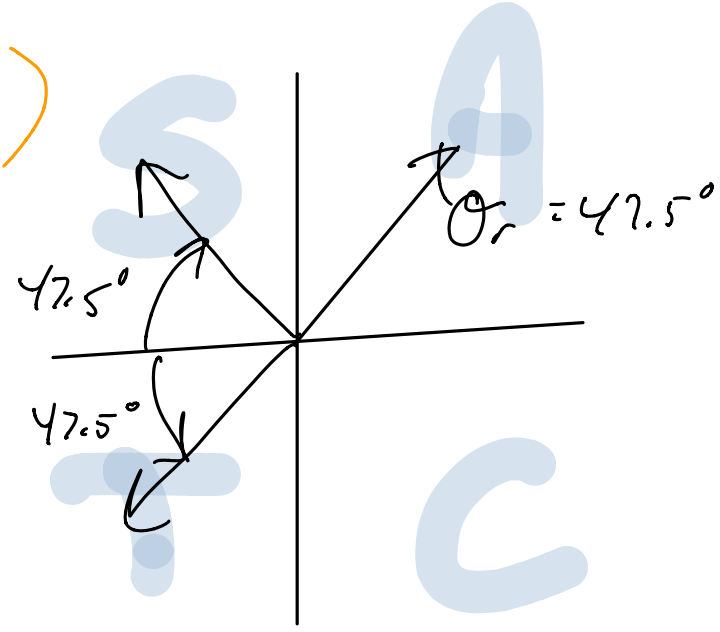
$\theta = \frac{5\pi}{4}, \frac{7\pi}{4}$



Determine θ to the nearest tenth of a degree given that $cos(\theta) = -0.6753$.

$\theta_r = \cos^{-1}(.6753)$

$\theta_r = 47.5$



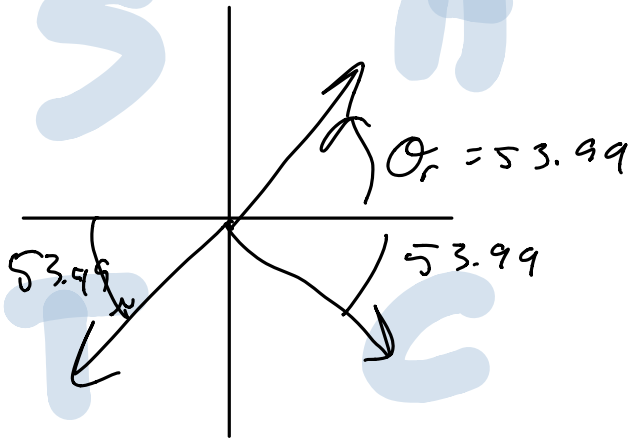
$180 \pm 47.5°$

$\theta = 227.5° \text{ or } 132.5°$

Determine θ to the nearest tenth of a degree given that $sin(\theta) = -0.8090$.

$\theta_r = \sin^{-1}(0.8090)$

$= 53.99°$

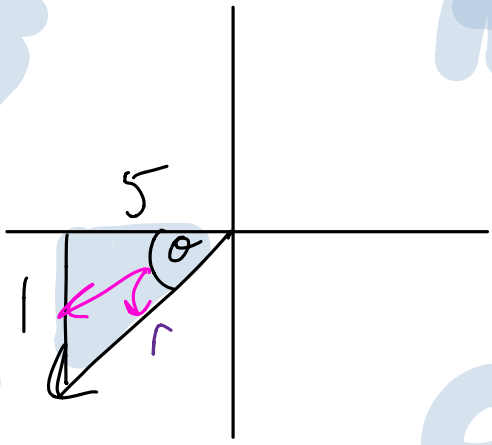


$\theta = 180° + 53.99$

$= 360° - 53.99$

$\theta = 234.0°, 306.0°$

Suppose θ is an angle in standard position with terminal arm in Q3, and $tan(\theta) = \frac{1}{5}$. Determine the exact values of $sin(\theta)$ and $cos(\theta)$.



$r = \sqrt{1^2 + 5^2}$

$r = \sqrt{26}$

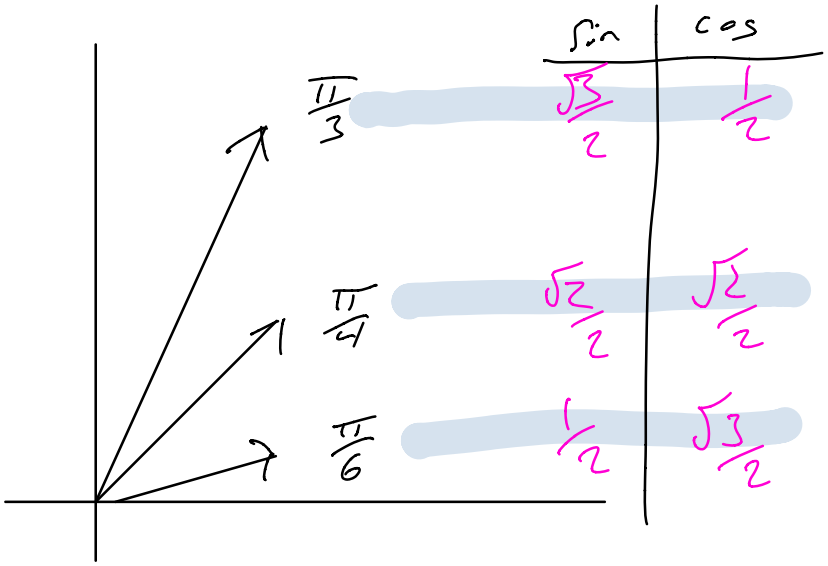
$\sin\theta = \frac{-1}{\sqrt{26}}$

$= \frac{-\sqrt{26}}{26}$

$\cos\theta = \frac{-5}{\sqrt{26}}$

$= \frac{-5\sqrt{26}}{26}$

HW:
15-17


sin
cos
π/3
√3/2
1/2
π/4
√2/2
√2/2
π/6
1/2
√3/2