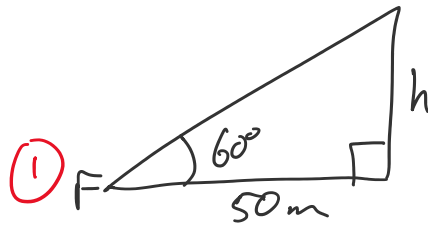


W02 Quiz 4 Solutions

Tuesday, November 3, 2020 3:27 PM

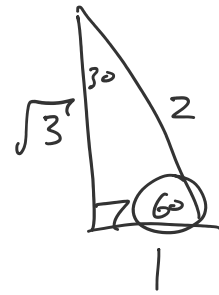
#1



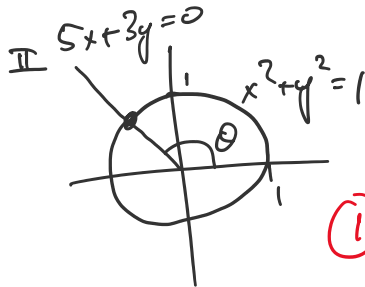
$$\textcircled{1} \tan 60^\circ = \frac{h}{50}$$

$$\therefore h = 50 \tan 60^\circ = 50(\sqrt{3})$$

$$\textcircled{1} = \boxed{50\sqrt{3} \text{ m}}$$



#2



$$5x + 3y = 0$$

$$y = -\frac{5}{3}x$$

$$\textcircled{1} \therefore x^2 + \frac{25}{9}x^2 = 1$$

$$\frac{34}{9}x^2 = 1$$

$$\textcircled{1} x^2 = \frac{9}{34}$$

neg. sine θ in quadrant II

$$\textcircled{1} x = \boxed{-\frac{3}{\sqrt{34}} = \cos \theta}$$

$$\textcircled{1} \textcircled{3} \quad \text{LS} = \frac{\csc(-x)}{\cot(-x)} = \frac{-\csc x}{-\cot x} = \frac{\cancel{\sin x}}{\cos x / \cancel{\sin x}} = \frac{1}{\cos x} = \sec x = \text{RS} \checkmark$$

#4 $\textcircled{1} \text{ a) } -\infty$

$\textcircled{1} \text{ b) } -\infty$

$\textcircled{1} \text{ c) } \infty$

$\textcircled{1} \text{ d) } \infty$

#5 $\textcircled{1} \therefore \cos \theta = \frac{-1}{1.3351}$



#5) $\cos \theta = \frac{-1}{1.3351}$ $\left(\frac{S}{T}\right) C$

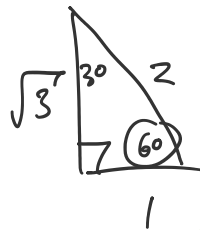
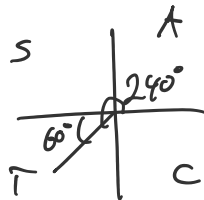
$\therefore \theta = \cos^{-1}\left(\frac{1}{1.3351}\right) \approx 41.5^\circ$

$\therefore \theta = 138.5^\circ \text{ or } 221.5^\circ$

#6) a) $\sin 240^\circ$

$= -\sin 60^\circ$

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



* Must show use of reference angles and special triangles *

b) $\cos \frac{5\pi}{6}$

$= -\cos \frac{\pi}{6}$

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

