

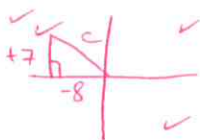
1. Convert: a) the angle $\alpha = \frac{3\pi}{5}$ to degree. b) the angle $\theta = 310^\circ$ to radians. NC

$$\frac{3\pi}{5} \cdot \frac{180}{\pi} = \frac{540\pi}{5\pi} = 108^\circ \quad \frac{310^\circ}{1} \cdot \frac{\pi}{180} = \frac{310\pi}{180} = \frac{31\pi}{18}$$

2. What is the degree measure of an angle whose measure is 14 radians? NC

$$\frac{14}{1} \cdot \frac{180}{\pi} = \frac{2520}{\pi}$$

3. If $\tan \theta = \frac{-7}{8}$ and the sine of the angle is positive, Find $\cos \theta$.



$$c^2 = 7^2 + (-8)^2$$

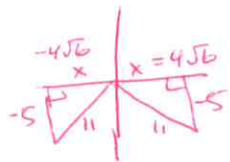
$$c^2 = 49 + 64$$

$$c^2 = 113$$

$$c = \sqrt{113}$$

$$\cos \theta = \frac{-8}{\sqrt{113}} \cdot \frac{\sqrt{113}}{\sqrt{113}} = \frac{-8\sqrt{113}}{113}$$

4. If $\sin \theta = \frac{-5}{11}$, what are the possible values for $\tan \theta$?



$$x^2 + (-5)^2 = 11^2$$

$$x^2 + 25 = 121$$

$$x^2 = 96$$

$$x = \sqrt{96} = \sqrt{16 \cdot 6} = 4\sqrt{6}$$

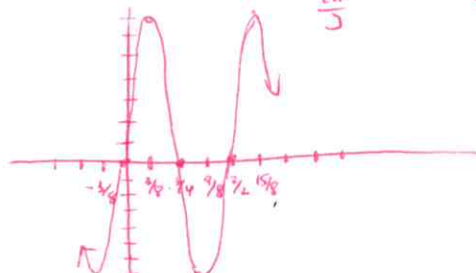
$$\tan \theta = \frac{-5}{-4\sqrt{6}} \cdot \frac{\sqrt{6}}{\sqrt{6}} = \frac{5\sqrt{6}}{4 \cdot 6} = \frac{5\sqrt{6}}{24}$$

$$\tan \theta = \frac{-5}{4\sqrt{6}} \cdot \frac{\sqrt{6}}{\sqrt{6}} = \frac{-5\sqrt{6}}{4 \cdot 6} = \frac{-5\sqrt{6}}{24}$$

5. Graph one cycle of $f(x) = 7\sin(\frac{4\pi}{3}x)$, find the period and the amplitude.

$$\text{amp} = |7| = 7$$

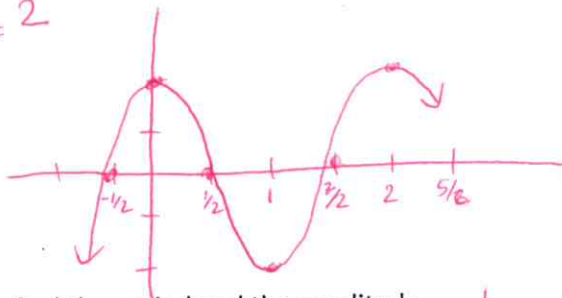
$$P = \frac{2\pi}{\frac{4\pi}{3}} = 2\pi \cdot \frac{3}{4\pi} = \frac{6\pi}{4\pi} = \frac{3}{2}$$

~~| x | y = 7sin x |
|-----|------------|
| 0 | 0 |
| 3/8 | 7 |
| 3/4 | 0 |
| 9/8 | -7 |
| 3/2 | 0 |~~


6. Graph one cycle of $f(x) = 2\cos(\pi x)$, find the period and the amplitude.

$$\text{amp} = |2| = 2 \quad P = \frac{2\pi}{\pi} = 2$$

x	y = 2cos x
0	2
1/2	0
1	-2
3/2	0
2	2



7. Graph one cycle of $f(x) = 5\cos(\frac{\pi}{2}x)$, find the period and the amplitude.

$$\text{amp} = |5| = 5 \quad P = \frac{2\pi}{\frac{\pi}{2}} = 2\pi \cdot \frac{2}{\pi} = \frac{4\pi}{\pi} = 4$$

x	y = 5cos x
0	5
1	0
2	-5
3	0
4	5

