

Exact Trig Values

Without a calculator, evaluate each trig function at the given angle (*I recommend you make a separate drawing for each*)

1.  $\cos \frac{7\pi}{6}$

2.  $\sin \frac{7\pi}{2}$

3.  $\tan \frac{3\pi}{4}$

4.  $\cos \frac{-2\pi}{3}$

8.  $\sin \frac{11\pi}{6}$

9.  $\tan(-\pi)$

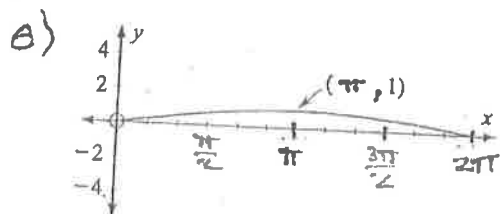
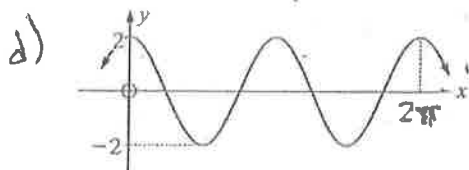
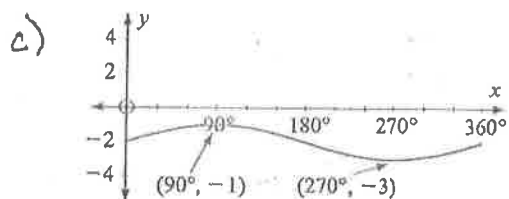
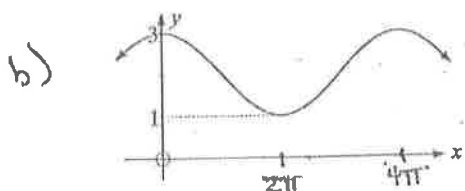
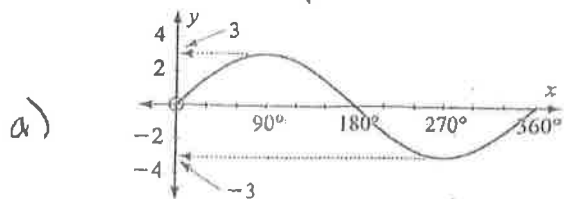
10. Without a calculator, solve for each angle(s) that makes the given equation true on the interval  $[0, 2\pi]$ .

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

$$\cos \theta = -\frac{\sqrt{3}}{2}$$

11. Draw a Unit Circle. Draw an rotation angle of around 100 degrees. Draw a line segment that represents the length of the the approximate value of  $\sin(100^\circ)$ . Eyeballing this segment, estimate the approximate value of  $\sin(100^\circ)$  to the nearest 0.1

12. Determine the equation of each periodic function. Show your calculation for the b value.



13. On separate paper make an accurate, labeled, sketch for each below

a)  $f(\theta) = 8 \sin(2\theta)$  label with radians

b)  $f(\theta) = 15 \cos\left(\frac{x}{2}\right)$  label with degrees

c)  $f(t) = 1000 \sin(5t)$  label with radians