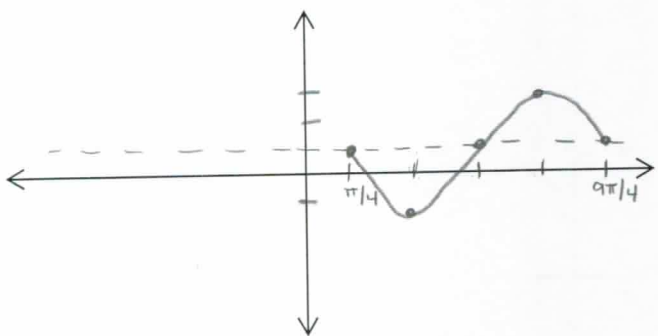
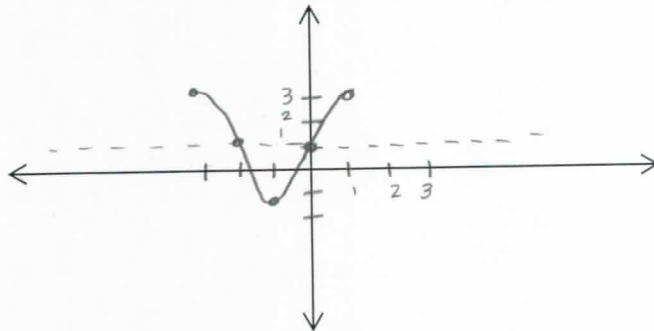


Graph the following functions, showing all critical values for one full cycle. Clearly label your axes.

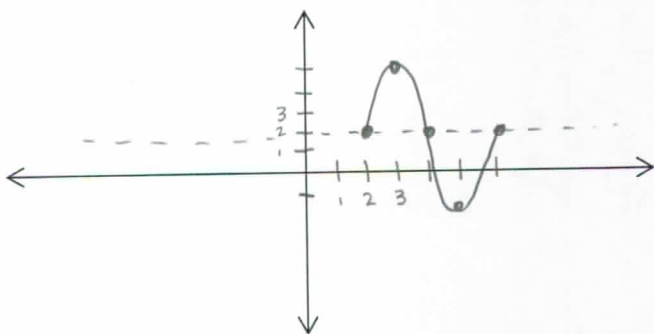
1.  $y = 1 - 2\sin(x - \frac{\pi}{4})$   $\uparrow 1 \rightarrow \frac{\pi}{4}$  amp 2  
per  $2\pi$



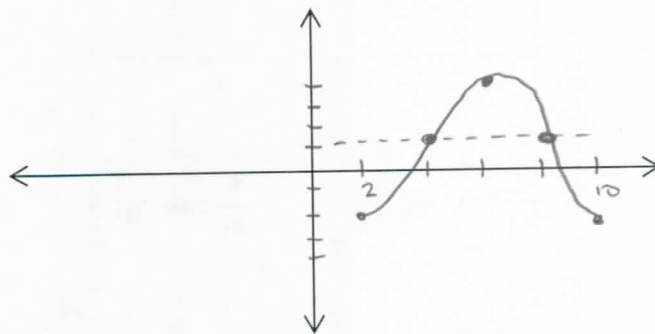
2.  $y = 1 + 2\cos(\frac{\pi}{2}(x+3))$   $\uparrow 1 \leftarrow 3$  per. 4  
amp 2



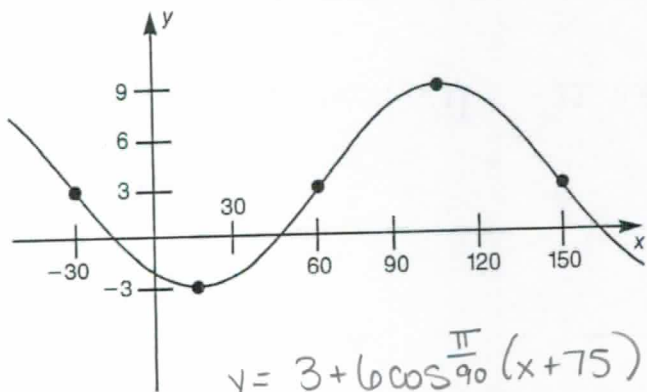
3.  $y = 2 + 3\sin(\frac{\pi}{2}(x-2))$   $\uparrow 2 \rightarrow 2$   
per. 4  
amp 3



4.  $y = 1 - 3\cos(\frac{\pi}{4}(x-2))$   $\uparrow 1 \rightarrow 2$  per. 8  
amp 3

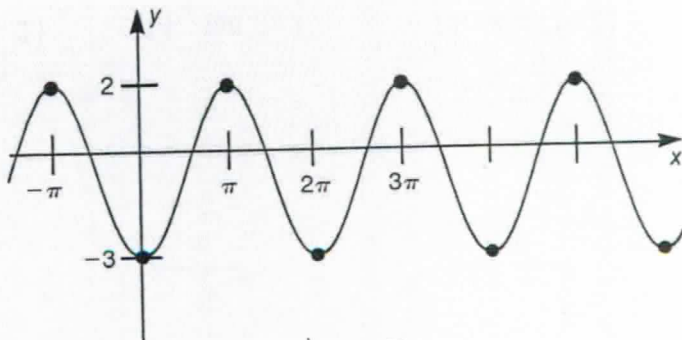


5. Write a cosine and sine equation for the graph below.



$$y = 3 + 6\cos\frac{\pi}{90}(x+75)$$

$$y = 3 - 6\sin\frac{\pi}{90}(x+30)$$



$$y = -\frac{1}{2} - \frac{5}{2}\cos x$$

$$y = -\frac{1}{2} + \frac{5}{2}\sin(x - \frac{\pi}{2})$$

Find the exact value for the following:

6.  $\sin^{-1} 0$

$0\pi$

7.  $\cos^{-1} \frac{\sqrt{2}}{2}$

$\frac{\pi}{4}$

8.  $\arcsin\left(-\frac{1}{2}\right)$

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

9.  $\cot^{-1} 0$

$\frac{\pi}{2}$

10.  $\sec^{-1} -2$

$\frac{2\pi}{3}$

11.  $\operatorname{arccsc} 1$

$\frac{\pi}{2}$

12.  $\tan^{-1}(-\sqrt{3})$

$-\frac{\pi}{3}$

13.  $\cos^{-1}(-2)$

und.

14.  $\tan^{-1} -1$

$-\frac{\pi}{4}$

15.  $\sec^{-1}(-2)$

$\frac{2\pi}{3}$

16.  $\sin -150^\circ$

$-\frac{1}{2}$

17.  $\sin 240^\circ$

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

18.  $\cos 60^\circ$

$\frac{1}{2}$

19.  $\sec \frac{3\pi}{4}$

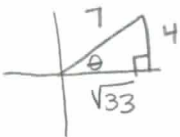
$-\sqrt{2}$

20.  $\tan \frac{7\pi}{4}$

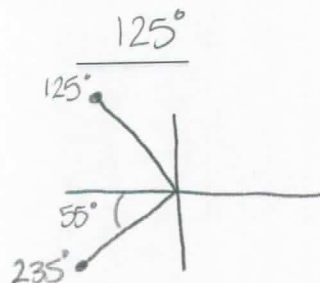
$-1$

21.  $\tan\left(\sin^{-1} \frac{4}{7}\right)$

$\frac{4\sqrt{33}}{33}$

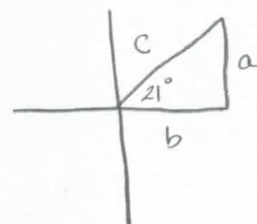


22.  $\arccos(\cos 235^\circ)$



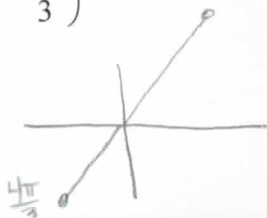
23.  $\sin^{-1}(\cos 21^\circ)$

$69^\circ$



24.  $\tan^{-1}\left(\tan \frac{4\pi}{3}\right)$

$\frac{\pi}{3}$



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

$\frac{2\sqrt{7}}{7}$

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

