

Graph one cycle of the following graphs:

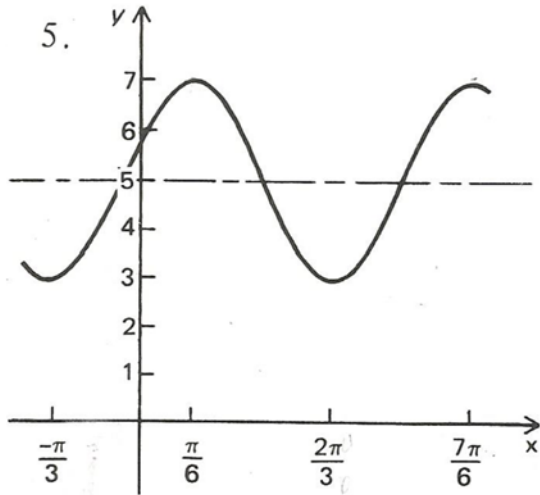
1.  $y = 3 + 2 \cos\left(\frac{1}{5}(x - \pi)\right)$

2.  $y = -4 + 5 \sin\left(\frac{2}{3}\left(x + \frac{\pi}{2}\right)\right)$

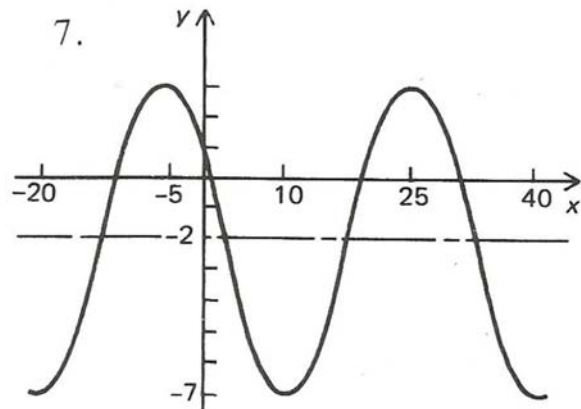
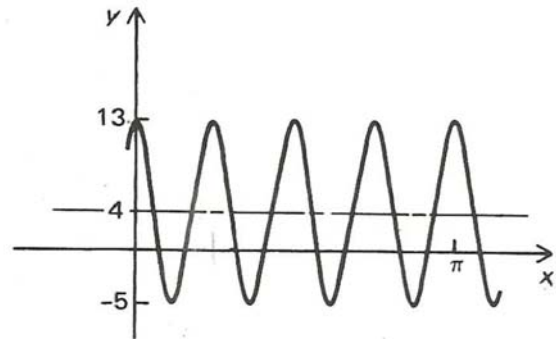
3.  $y = 2 + 6 \sin\frac{\pi}{4}(x - 1)$

4.  $y = -5 + 4 \cos\left(\frac{\pi}{3}(x + 2)\right)$

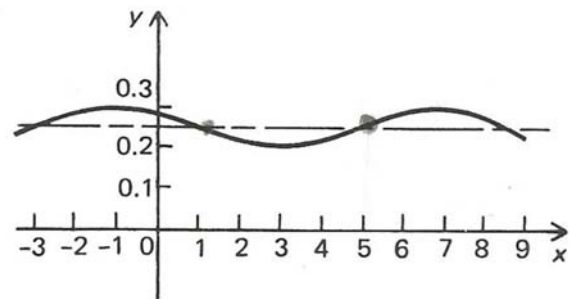
Write 2 equations for the following graphs. One must be a cosine and the other must be a sine equation.



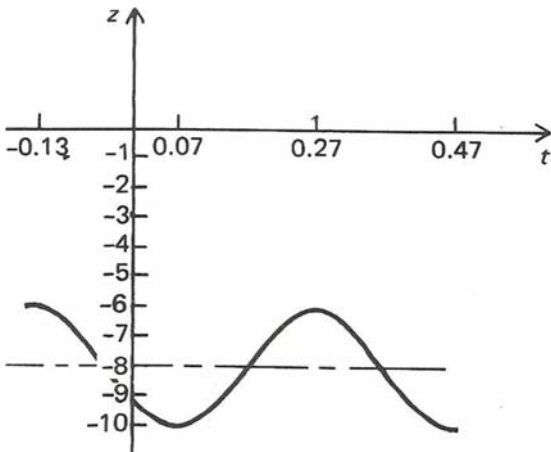
6.



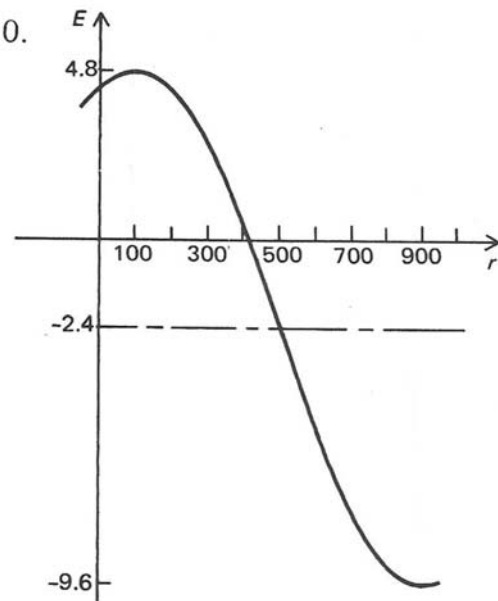
8.



9.

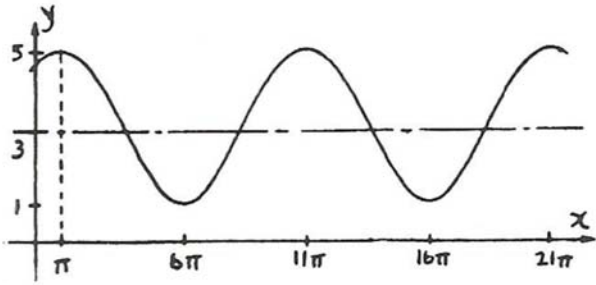


10.

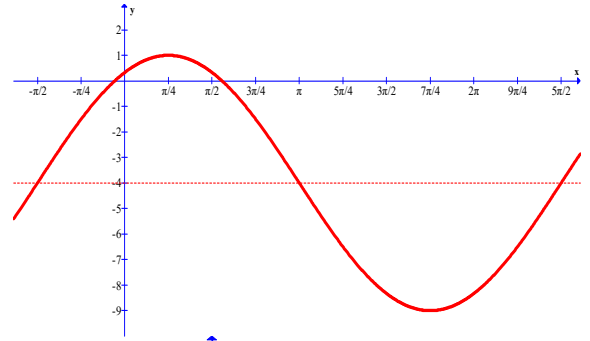


## Answers

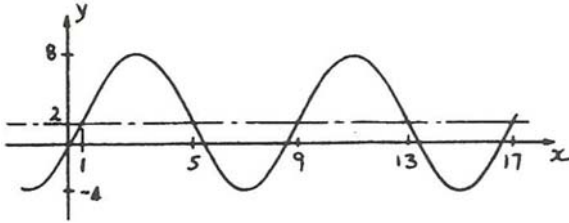
1.



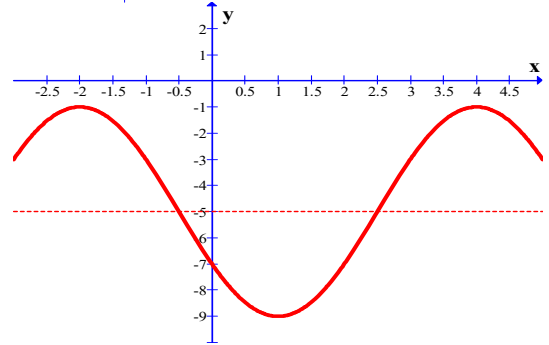
2.



3.



4.



5.  $y = 5 + 2 \cos 2\left(x - \frac{\pi}{6}\right)$

$$y = 5 + 2 \sin 2\left(x + \frac{\pi}{12}\right)$$

6.  $y = 4 + 9 \cos 8x$

$$y = 4 + 9 \sin 8\left(x + \frac{\pi}{16}\right)$$

7.  $y = -2 + 5 \cos \frac{\pi}{15}(x + 5)$

$$y = -2 + 5 \sin \frac{\pi}{15}(x + 12.5)$$

8.  $y = 0.25 + 0.05 \cos \frac{\pi}{4}(x + 1)$

$$y = 0.25 + 0.05 \sin \frac{\pi}{4}(x + 3)$$

9.  $y = -8 + 2 \cos 5\pi(x + 0.13)$

$$y = -8 + 2 \sin 5\pi(x - 0.17)$$

10.  $y = -2.4 + 7.2 \cos \frac{\pi}{800}(x - 100)$

$$y = -2.4 + 7.2 \sin \frac{\pi}{800}(x + 300)$$