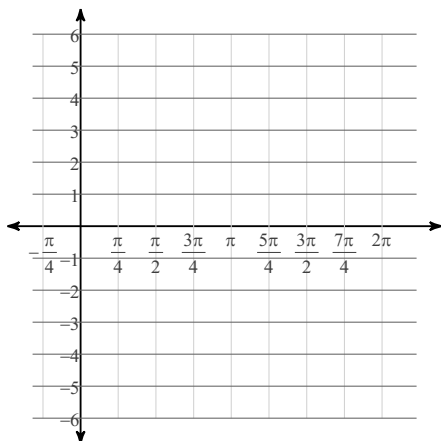
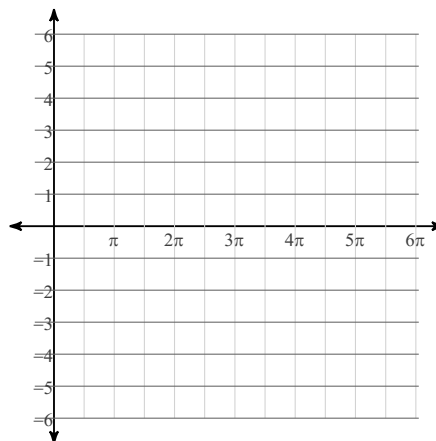


Warm- Up: Graph each function using radians.

1) $y = \frac{1}{2} \cdot \sin 3\theta$



2) $y = 3\cos \frac{\theta}{2}$

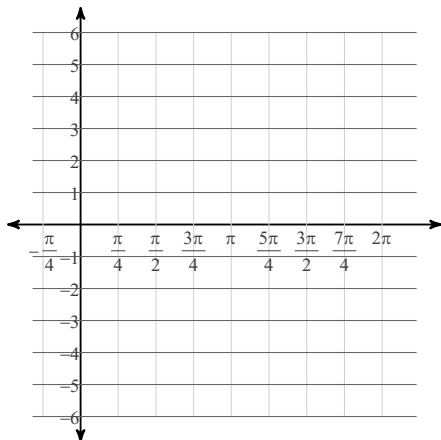


3) $y = \frac{1}{2} \cdot \sin \frac{\theta}{4}$

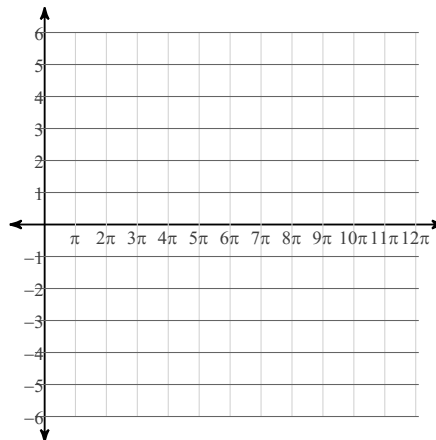
4) $y = 4\cos 3\theta$

Vertical Translations: Graph each function using radians.

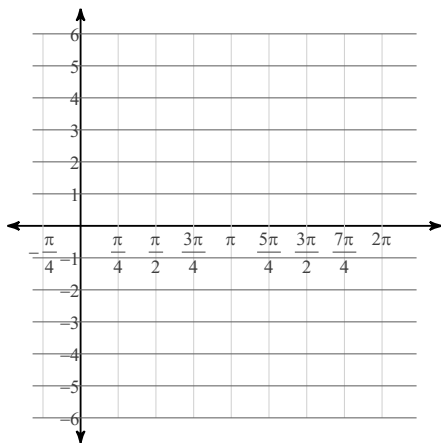
5) $y = \frac{1}{2} \cdot \cos 2\theta + 1$



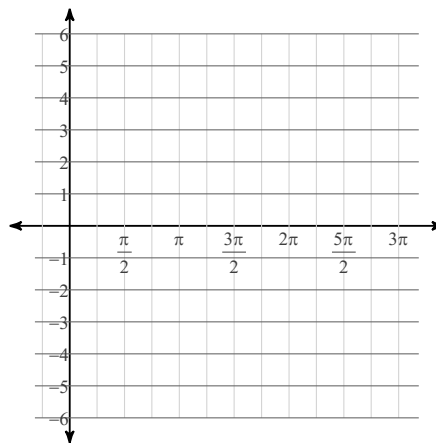
6) $y = 2\sin \frac{\theta}{4} - 1$



7) $y = 4\sin 3\theta + 2$



8) $y = 4\cos \theta + 1$



Horizontal shift (Phase shift) + Vertical Shift: Graph each function using radians.

9) $y = 4\cos\left(\theta + \frac{2\pi}{3}\right) + 1$

10) $y = 1 + 2\sin\left(\theta + \frac{\pi}{6}\right)$

11) $y = \frac{1}{2} \cdot \sin\left(4\theta - \frac{3\pi}{4}\right) - 2$

12) $y = 2\cos\left(\frac{\theta}{4} + \frac{2\pi}{3}\right) + 1$

13) $y = 2\cos\left(\frac{\theta}{2} + \frac{3\pi}{4}\right) - 2$

14) $y = \frac{1}{2} \cdot \sin\left(3\theta + \frac{\pi}{2}\right) + 1$

Hwk :Horizontal shift (Phase shift) + Vertical Shift: Graph each function using radians.

15) $y = \frac{1}{2} \cdot \cos\left(\theta + \frac{5\pi}{4}\right) - 1$

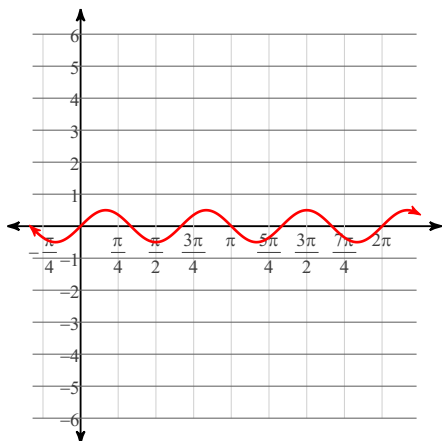
16) $y = \sin\left(\theta - \frac{5\pi}{6}\right)$

17) $y = -1 + 3\cos\left(4\theta + \frac{\pi}{2}\right)$

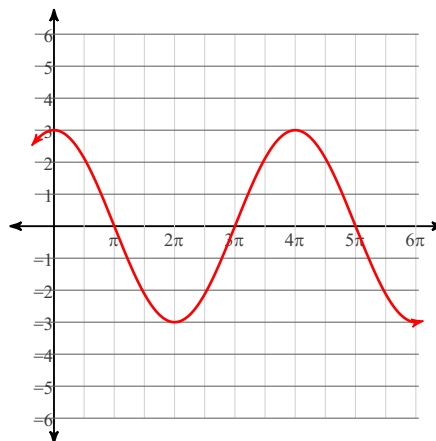
18) $y = 1 + 2\cos\left(3\theta + \frac{3\pi}{4}\right)$

Warm-Up: Graph each function using radians.

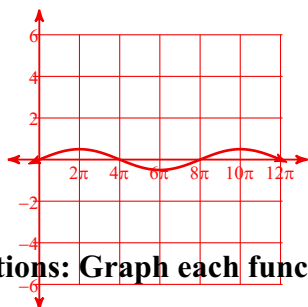
1) $y = \frac{1}{2} \cdot \sin 3\theta$



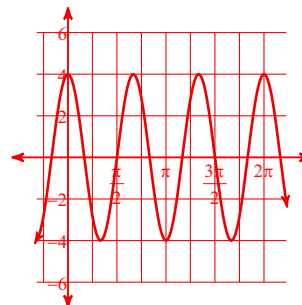
2) $y = 3\cos \frac{\theta}{2}$



3) $y = \frac{1}{2} \cdot \sin \frac{\theta}{4}$

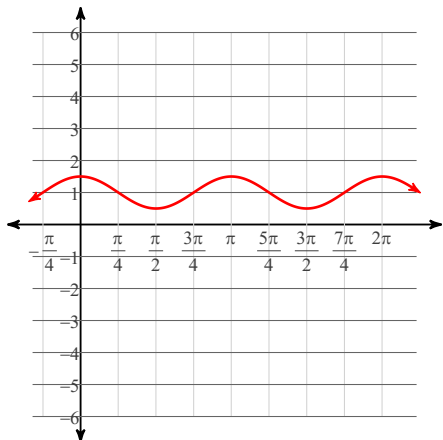


4) $y = 4\cos 3\theta$

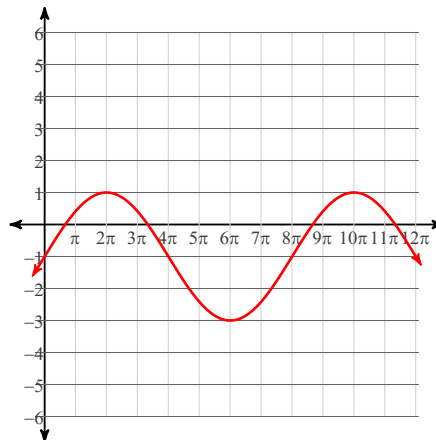


Vertical Translations: Graph each function using radians.

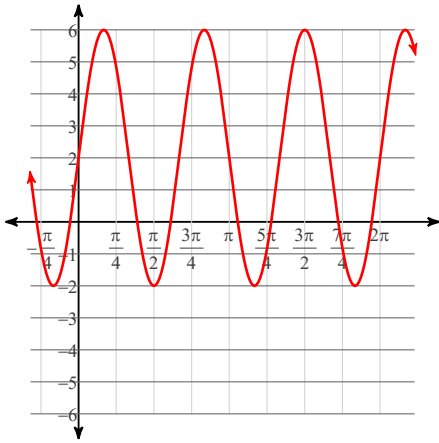
5) $y = \frac{1}{2} \cdot \cos 2\theta + 1$



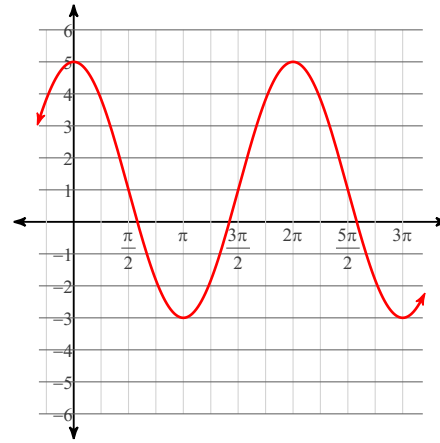
6) $y = 2\sin \frac{\theta}{4} - 1$



7) $y = 4\sin 3\theta + 2$

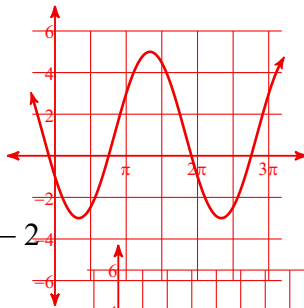


8) $y = 4\cos \theta + 1$

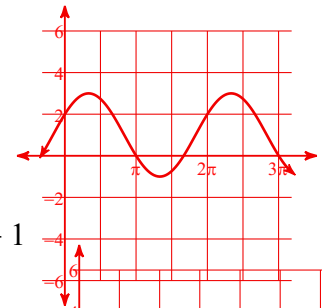


Horizontal shift (Phase shift) + Vertical Shift: Graph each function using radians.

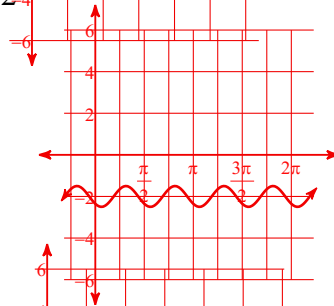
9) $y = 4\cos\left(\theta + \frac{2\pi}{3}\right) + 1$



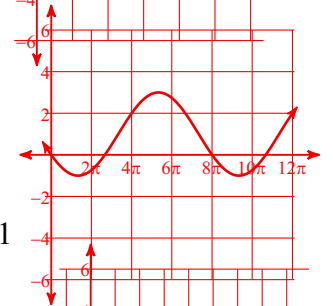
10) $y = 1 + 2\sin\left(\theta + \frac{\pi}{6}\right)$



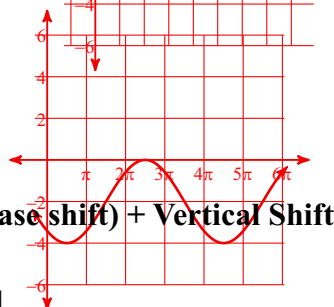
11) $y = \frac{1}{2} \cdot \sin\left(4\theta - \frac{3\pi}{4}\right) - 2$



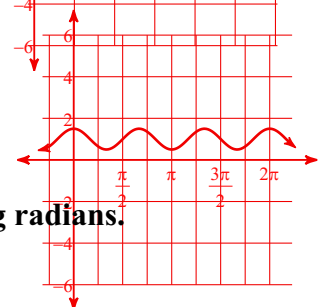
12) $y = 2\cos\left(\frac{\theta}{4} + \frac{2\pi}{3}\right) + 1$



13) $y = 2\cos\left(\frac{\theta}{2} + \frac{3\pi}{4}\right) - 2$

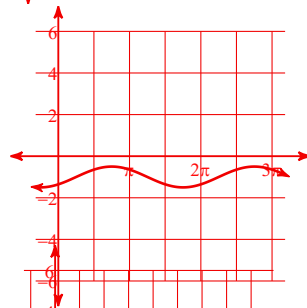


14) $y = \frac{1}{2} \cdot \sin\left(3\theta + \frac{\pi}{2}\right) + 1$

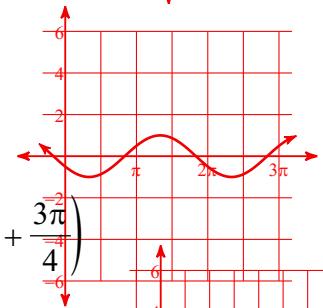


Hwk :Horizontal shift (Phase shift) + Vertical Shift: Graph each function using radians.

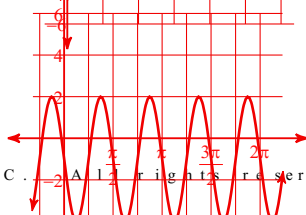
15) $y = \frac{1}{2} \cdot \cos\left(\theta + \frac{5\pi}{4}\right) - 1$



16) $y = \sin\left(\theta - \frac{5\pi}{6}\right)$



17) $y = -1 + 3\cos\left(4\theta + \frac{\pi}{2}\right)$



18) $y = 1 + 2\cos\left(3\theta + \frac{3\pi}{4}\right)$

