Honors Math II
Unit 9 day 6 graphing sine

Name Key
Period ____ Date ____

Jsing radians, find the amplitude, period, phase shift and vertical translation of each function.

1. $y = 9sin\theta$
amplitude : 9
period 2π

2. $y = 6sin\theta$
amp: 6
period 2π

3. $y = -7sin\theta$ reflects
Amp: 7
period: 2π

4. $y = \frac{1}{7}sin\theta$
Amp: $\frac{1}{7}$
period: 2π

5. $y = 8sin2\theta$
Amp: 8
Period : $\frac{2\pi}{2} = \pi$

6. $y = -3sin\frac{\theta}{5}$ reflects
Amp: 3
Period: $\frac{2\pi}{1/5} = 10\pi$

7. $y = 4sin3x$
Amp: 4
Period : $\frac{2\pi}{3}$

8. $y = 9sin5x$
amp: 9
Period : $\frac{2\pi}{5}$

9. $y = 2sin\left(x + \frac{\pi}{4}\right)$
Amp: 2
period: 2π
Left $\pi/4$

10. $y = \frac{1}{8}sin\left(2x + \frac{\pi}{6}\right) + 1$
Amp: $1/8$ up 1
period: $\frac{2\pi}{2} = \pi$
Left : $\pi/12$

11. $y = 9sin\left(2\theta - \frac{5\pi}{4}\right) - 4$
Amp: 9
Period: $\frac{2\pi}{2} = \pi$
Right $5\pi/8$ down 4

12. $y = 2sin\left(\frac{\theta}{7} + \frac{3\pi}{4}\right) - 4$
Amp: 2
period : $\frac{2\pi}{1/7} = 14\pi$
Left $\frac{21\pi}{4}$
down 4

13. $y = -sin2\left(x - \frac{\pi}{2}\right) + 3$
reflects
Amp: 1
period : $\frac{2\pi}{2} = \pi$
Right $\pi/2$ up 3

14. $y = 3sin4\left(\theta - \frac{\pi}{3}\right) + 1$
Amp: 3
Period: $\frac{2\pi}{4} = \frac{\pi}{2}$
Right $\pi/3$ up 1

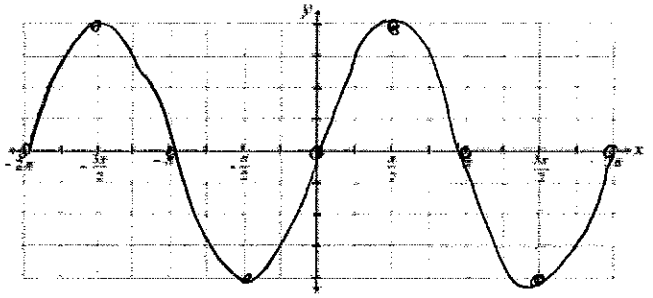
Graph each function using radians.

15. $y = 4sin\theta$

Amp: 4

period: 2π

count: $\frac{2\pi}{4} = \frac{\pi}{2}$

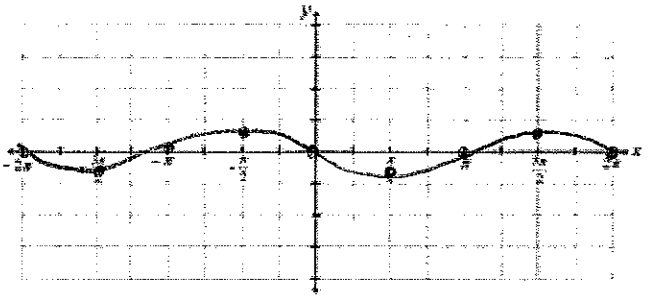


16. $y = -\frac{1}{2}sin\theta$ (reflects)

Amp: $\frac{1}{2}$

period: 2π

count: $\frac{2\pi}{4} = \frac{\pi}{2}$

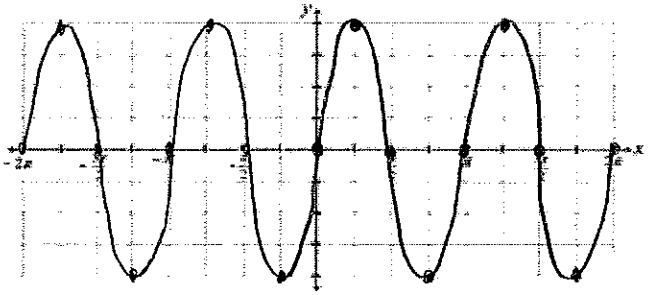


19. $y = 4sin2x$

Amp: 4

period: $\frac{2\pi}{2} = \pi$

count: $\frac{\pi}{4}$

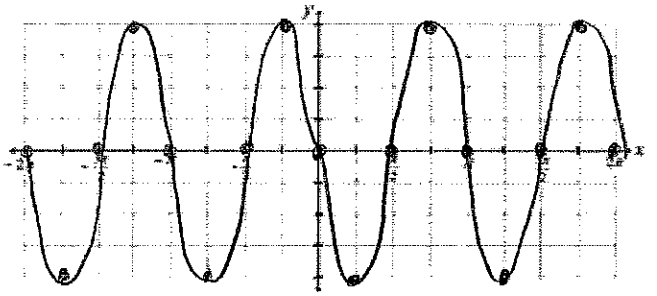


20. $y = -4sin2\theta$ (reflects)

Amp: 4

period: $\frac{2\pi}{2} = \pi$

count: $\frac{\pi}{4}$



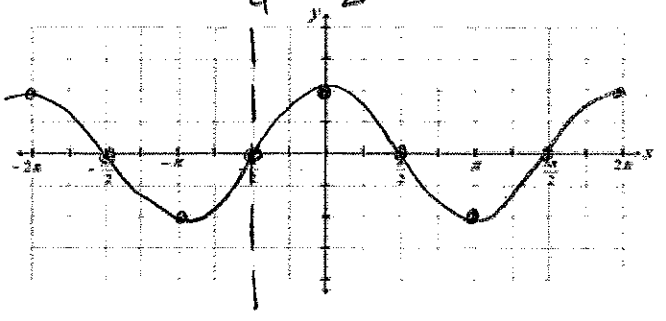
21. $y = 2sin\left(\theta + \frac{\pi}{2}\right)$

Amp: 2

Left $\frac{\pi}{2}$

period: 2π

count: $\frac{2\pi}{4} = \frac{\pi}{2}$



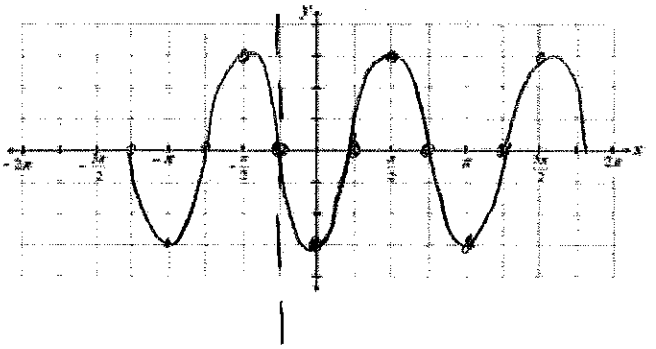
22. $y = -3\sin\left(2x + \frac{\pi}{2}\right)$ (reflects)

Amp: 3

Left $\frac{\pi}{4}$

period: $\frac{2\pi}{2} = \pi$

count: $\frac{\pi}{4}$



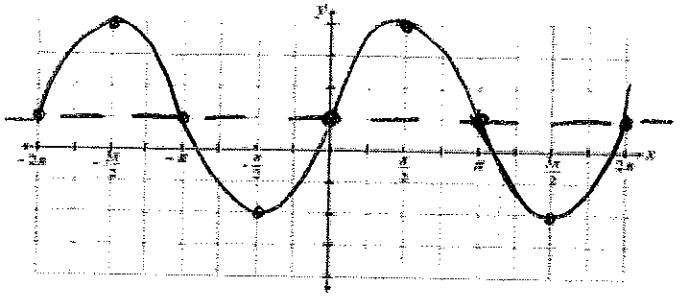
25. $y = 3sinx + 1$

Amp: 3

period: 2π

count: $\frac{2\pi}{4} = \frac{\pi}{2}$

up 1



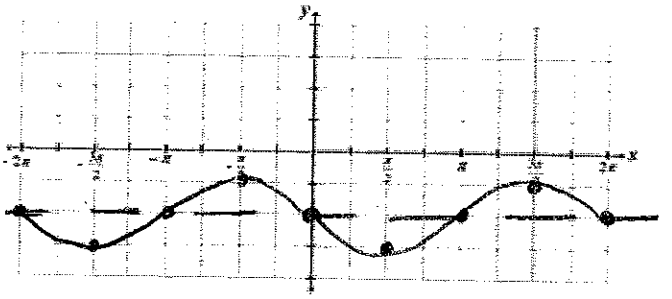
26. $y = -sinx - 2$ ← reflects

Amp: 1

period: 2π

count: $\frac{\pi}{2}$

down 2



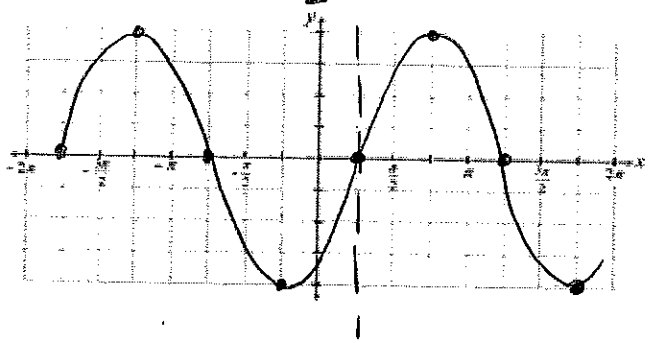
27. $y = 4sin\left(\theta - \frac{\pi}{4}\right)$

Amp: 4

period: 2π

count: $\frac{\pi}{2}$

Right $\frac{\pi}{4}$



28. $y = 3sin\left(\theta + \frac{\pi}{2}\right) - 1$

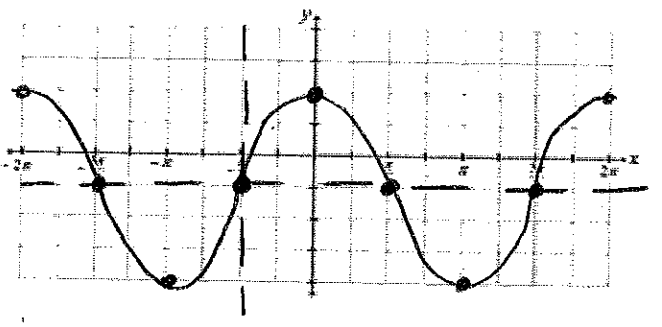
Amp: 3

period: 2π

count: $\frac{\pi}{2}$

Left $\frac{\pi}{2}$

down 1



30. $y = -sin(x + \pi) + 2$ ← reflects

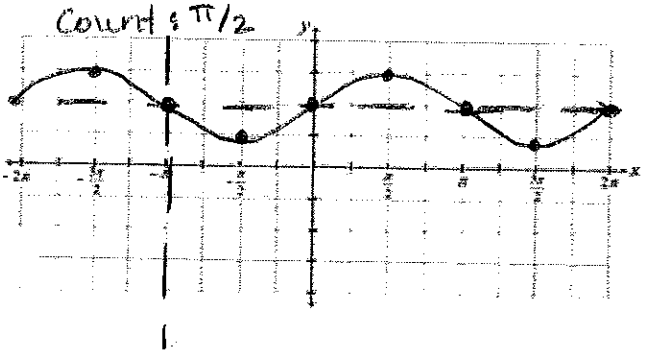
Amp: 1

Period 2π

Count: $\pi/2$

Left π

up 2



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

Amp: 3

period: 2π

Count: $\pi/2$

Left $\frac{3\pi}{4}$

down 2