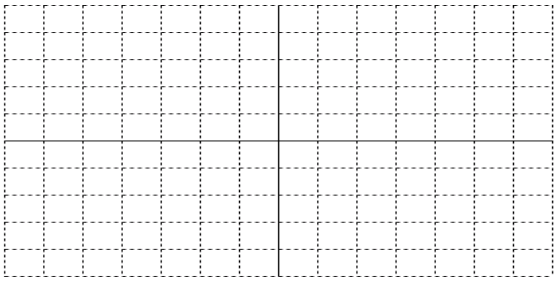
Accel Precalc Worksheet #3: Graphing Sine and Cosine Name:_____
Unit #6: Graphs and Inverses of Trig Functions
Lesson #4: Transformations of Sine and Cosine

I. State the amplitude, period, phase shift, and vertical shift for each. Then graph.

1. $y = \sin x + 1$

A = _____ NP = _____

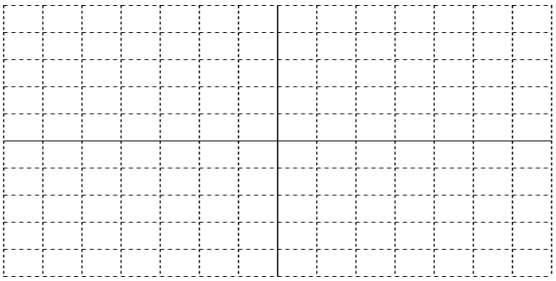
PS = _____ VS = _____



2. $y = \cos(x - \pi/2)$

A = _____ NP = _____

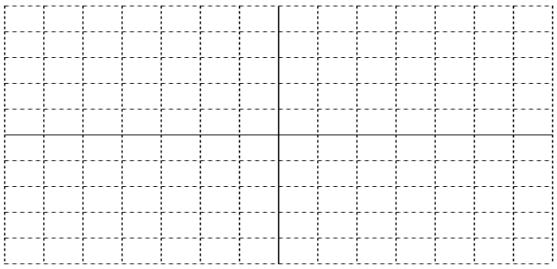
PS = _____ VS = _____



3. $y = \sin(-x) - 2$

A = _____ NP = _____

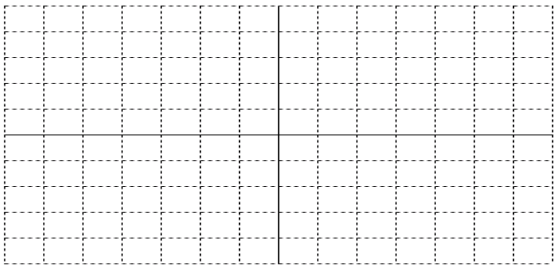
PS = _____ VS = _____



4. $y = \sin(\frac{1}{2}x)$

A = _____ NP = _____

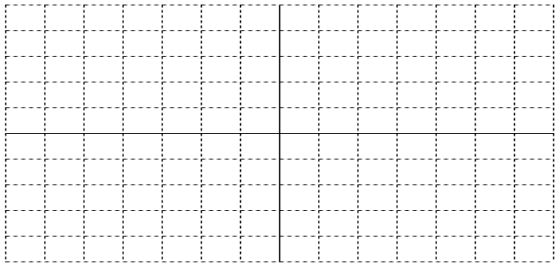
PS = _____ VS = _____



5. $y = -\cos x + 2$

A = _____ NP = _____

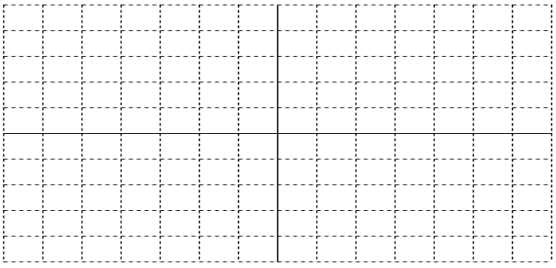
PS = _____ VS = _____



6. $y = \cos(\frac{1}{3}x) + 1$

A = _____ NP = _____

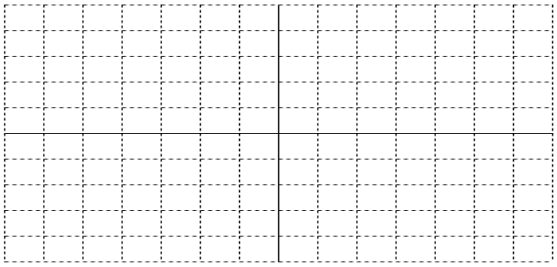
PS = _____ VS = _____



7. $y = 2 \sin(x - \pi)$

A = _____ NP = _____

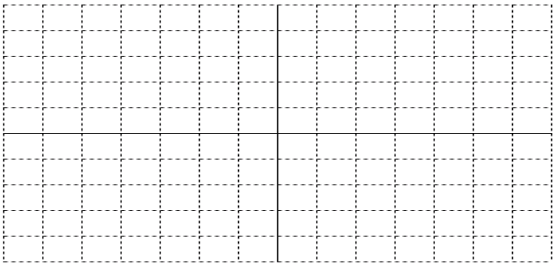
PS = _____ VS = _____



8. $y = -3 \cos(2x + \frac{\pi}{2})$

A = _____ NP = _____

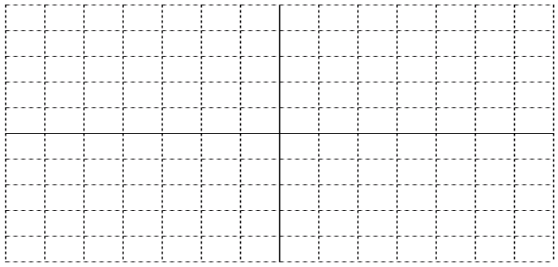
PS = _____ VS = _____



9. $y = 3\cos (2x + \pi) + 1$

A = _____ NP = _____

PS = _____ VS = _____



II. Write the equation of a **sine function** given:

10. amplitude = 4 new period = $\pi/4$ vertical shift = 6
11. amplitude = 1 new period = $2\pi/3$ phase shift = $\pi/6$ left
12. amplitude = 3 new period = π phase shift = $\pi/3$ right

III. Write the equation of **cosine function** given:

13. amplitude = 3 new period = 2π phase shift = π right vertical shift = 1 down
14. amplitude = 2 new period = 1 phase shift = $\frac{1}{2}$ right
15. amplitude = 6 new period = 6π phase shift = $\pi/2$ left vertical shift = 3 up