

Pre-Calculus

Name: _____

Unit 1 Review- Basics of Trig

Determine the exact values of the six trig functions that correspond to the given point.

1. (4, 3)

2. (-4, 1)

State the quadrant in which the terminal ray of θ lies.

3. $\sin \theta < 0$ and $\cos \theta < 0$

4. $\sin \theta > 0$ and $\tan \theta < 0$

5. $\sin \theta > 0$ and $\cos \theta > 0$

6. $\tan \theta < 0$ and $\sec \theta > 0$

Find the values of the six trig functions.

7. $\sin \theta = \frac{3}{5}$ θ is in Quadrant II

8. $\tan \theta = -\frac{15}{8}$ and $\sin \theta < 0$

Find the reference angles.

9. 295°

10. 85°

11. $\frac{3\pi}{4}$

12. $\frac{11\pi}{6}$

Find one co terminal angle with counter-clockwise rotation AND with clockwise rotation for the given angle.

13. 261°

14. $\frac{5\pi}{11}$

15. What does it mean for an angle to be in standard position?

16. How do you convert degrees to radians?
AND then radians to degrees?

17. Write an equation of the sine function with amplitude $1/2$, period 2, and vertical shift down 4.

18. State the period of the function $y = \sin(\pi/4 x)$. _____

19. **Where** does the maximum value occur $[0,2\pi)$ for the function $y = -3\cos(x + \pi/4)$ _____

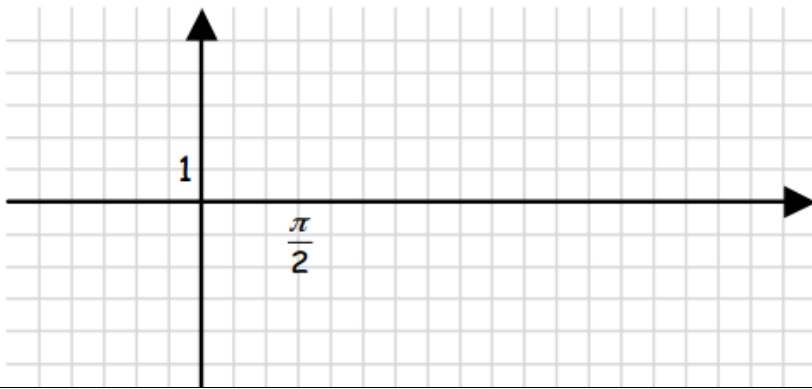
20. **Where** do the asymptotes occur for one period of $y = \csc(x) + 1$? _____

Vocabulary/Topics to Know:

- standard position
- terminal ray
- initial ray
- quadrantal angles
- negative angles vs. positive angles
- radian measure vs. degree measure
- coterminal angles
- reference angles
- Unit Circle
- undefined

Graph each function. Fill in the blanks and label key points.

21. $y = -2 \cos(3x)$



Amp: _____

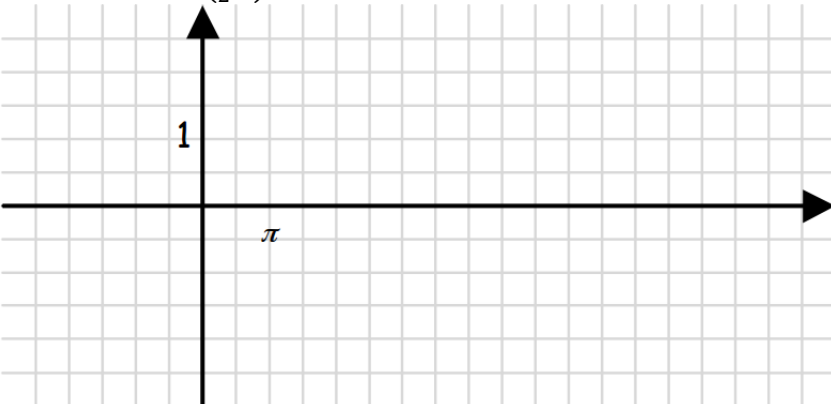
Period: _____

Phase Shift: _____

Vertical Shift: _____

Imp Values: _____

22. $y = -3 \sin\left(\frac{1}{2}x\right) + 1$



Amp: _____

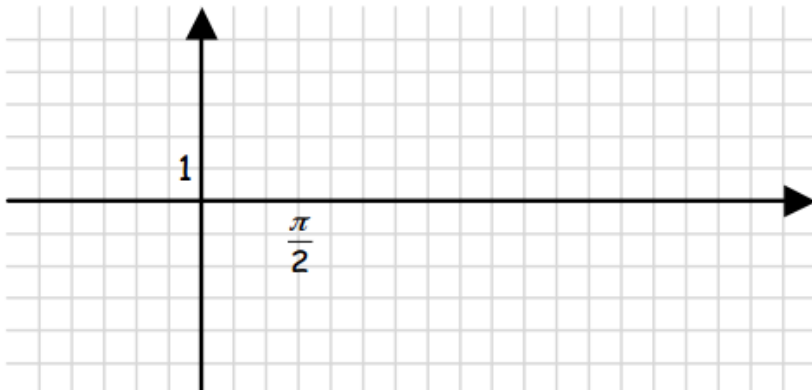
Period: _____

Phase Shift: _____

Vertical Shift: _____

Imp Values: _____

23. $y = 2 + \cot\left(\frac{x}{2}\right)$



Amp: _____

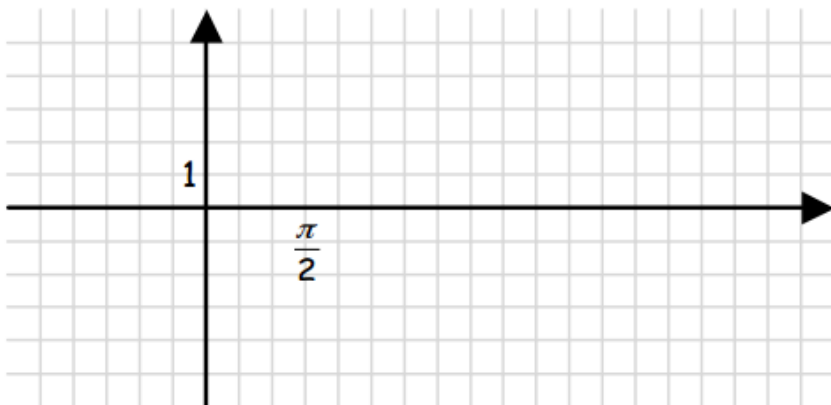
Period: _____

Phase Shift: _____

Vertical Shift: _____

Imp Values: _____

24. $y = -\csc x - 1$



Amp: _____

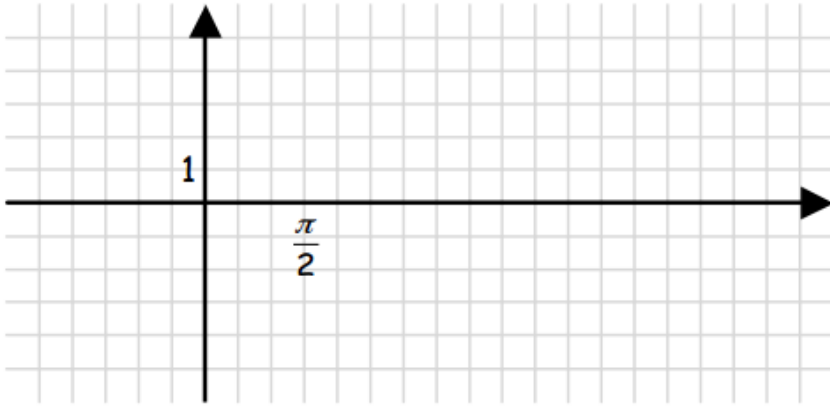
Period: _____

Phase Shift: _____

Vertical Shift: _____

Imp Values: _____

25. $y = 2 \tan\left(\frac{x}{2}\right) + 2$



Amp: _____

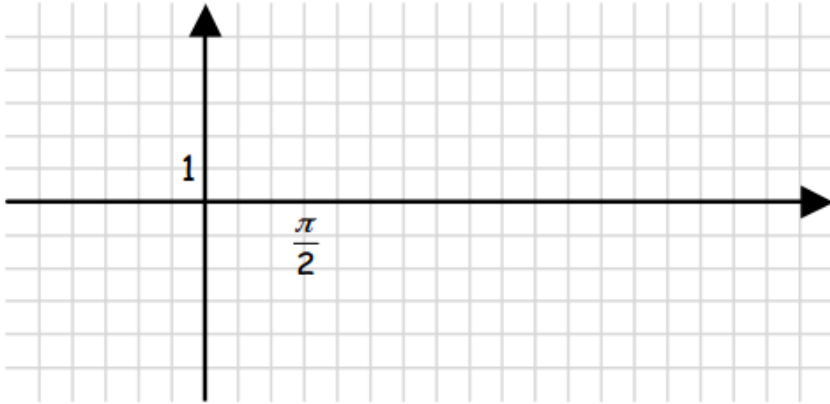
Period: _____

Phase Shift: _____

Vertical Shift: _____

Imp Values: _____

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



Amp: _____

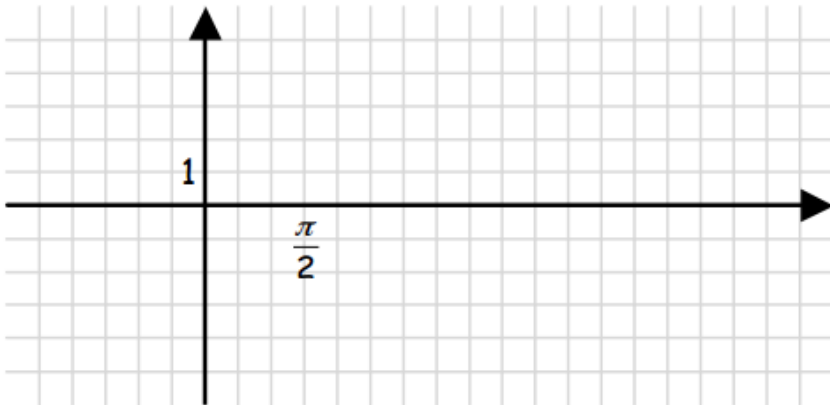
Period: _____

Phase Shift: _____

Vertical Shift: _____

Imp Values: _____

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



Amp: _____

Period: _____

Phase Shift: _____

Vertical Shift: _____

Imp Values: _____