

Directions: NO CALCULATORS OR ANY OTHER ELECTRONIC DEVICES are permitted on this section. Once you turn this section in, you may not have it back.

1. (4 points) Sketch the graph of $f(x) = 1 - \cos\left(\pi x - \frac{\pi}{2}\right)$

2. (1 point) What is the period of f ? 2. _____

3. (1 point) What is the domain of f ? 3. _____

4. (1 point) What is the range of f ? 4. _____

5. (1 point) Given an angle θ , recite the definition of θ 's reference angle, θ' .

6. (2 points) Find the reference angle θ' , for the angle $\theta = 540^\circ$.

6. _____

7. (3 points) State the Pythagorean identities.

7. _____

8. (3 points) Determine, without graphing, if the graph of

$$f(x) = 3x^3 - \sin(x)$$

has any symmetry. If it does state which type of symmetry it has.

9. (2 points) Find an angle in the interval $[0, 360^\circ)$ that is coterminal to

$$\alpha = \frac{53\pi}{6}$$

9. _____

10. (2 points) Evaluate $\tan\left(-\frac{7\pi}{3}\right)$

10. _____

11. Suppose $t = \frac{-7\pi}{2}$

(a) (1 point) Draw the angle t

(b) (1 point) What is the value of $\sin(t)$?

(b) _____

(c) (1 point) What is the value of $\cos(t)$?

(c) _____

12. (2 points) Evaluate $\sin^{-1}\left(-\frac{1}{2}\right)$

12. _____

13. (2 points) Evaluate $\tan^{-1}(0)$

13. _____

14. (2 points) Evaluate $\tan\left(\cos^{-1}\left(\frac{1}{2}\right)\right)$

14. _____

15. (4 points) Find the domain and range of $y = 3 \csc\left(\frac{2}{5}x - 1\right) - 1$

15. _____