

Unit #6: Graphs and Inverses of Trig Functions

Practice Worksheet #1

❖ REMINDER WHEN FIRST GRAPHING FUNCTIONS:

- Place your calculator in Radian mode
- Set your Window: X values $[-2\pi, 2\pi]$ $\frac{\pi}{4}$ Y values $[-8, 8]$

❖ REMINDER WHEN CHECKING ANSWER:

- Set your Window: X values $[-\pi, \pi]$ $\frac{\pi}{4}$ Y values $[-8, 8]$

Part I: Write a function in the form or $f(x) = A\sin[B(x - C)] + D$ for **#1 - 6 in Part I of your notes** that were sinusoidal. You must **show all work** that justifies each part of the equation.

1. $y = 3\sin x + 2\cos x$

2. $y = 2\sin x - 3\cos x$

$f(x) =$ _____

$f(x) =$ _____

3. $y = 2\sin 3x + 4\cos 2x$

4. $y = 3\sin 5x - 5\cos 5x$

$f(x) =$ _____

$f(x) =$ _____

5. $y = 4\sin x - 2\cos x$

6. $y = 2\sin 3x + 3\cos 2x$

$f(x) =$ _____

$f(x) =$ _____

Part II. Graph each function. Write a function in the form $y = A\sin[B(x - C)] + D$ for those that appear to be sinusoidal. Show all work involved in creating equation.

7. $y = 2\sin(3x + 1) - 5\cos(3x - 2)$

8. $y = 3\sin(2x - 0.5) + \cos(2x + 1)$

$f(x) =$ _____

$f(x) =$ _____

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

10. $y = 2\sin(x - 2) + 3\cos(4x + 1)$

$f(x) =$ _____

$f(x) =$ _____

11. $y = 3\sin(4x + 1) - 2\cos(2x - 3)$

12. $y = 2\sin(3x - 2) + 3\cos(3x + 4)$

$f(x) =$ _____

$f(x) =$ _____