

Assignment 7--Writing Equations of Trigonometric Functions

Name _____

Write an equation for the function described with the following characteristics:

1. Sine Function

- a. Up 3; left $\frac{\pi}{4}$; amplitude of 7; has a period of 8π

$$\frac{2\pi}{b} = \frac{8\pi}{1}$$

Answer: $y = 7\sin\frac{1}{4}(x + \frac{\pi}{4}) + 3$

$$\frac{2\pi}{8\pi} = \frac{8\pi b}{8\pi} \quad \frac{1}{4} = b$$

2. Cosine Function

- a. Right $\frac{5\pi}{8}$; reflect across x axis; amplitude of $\frac{1}{8}$; has a period of $\frac{2\pi}{3}$

Answer: _____

3. Tangent Function

- a. Down 2; right $\frac{\pi}{3}$; stretch by 2; has a period of 6π

$$\frac{\pi}{b} = \frac{6\pi}{1}$$

Answer: $y = 2\tan\frac{1}{6}(x - \frac{\pi}{3}) - 2$

$$\frac{\pi}{6\pi} = \frac{6\pi b}{6\pi} \quad \frac{1}{6} = b$$

4. Cotangent Function

- a. Up 5; left $\frac{3\pi}{4}$; reflect across the x axis; has a period of $\frac{\pi}{4}$

Answer: _____

5. Secant Function

- a. Down 9; left $\frac{\pi}{6}$; stretch by 5; has a period of 4π

Answer: _____

6. Cosecant Function

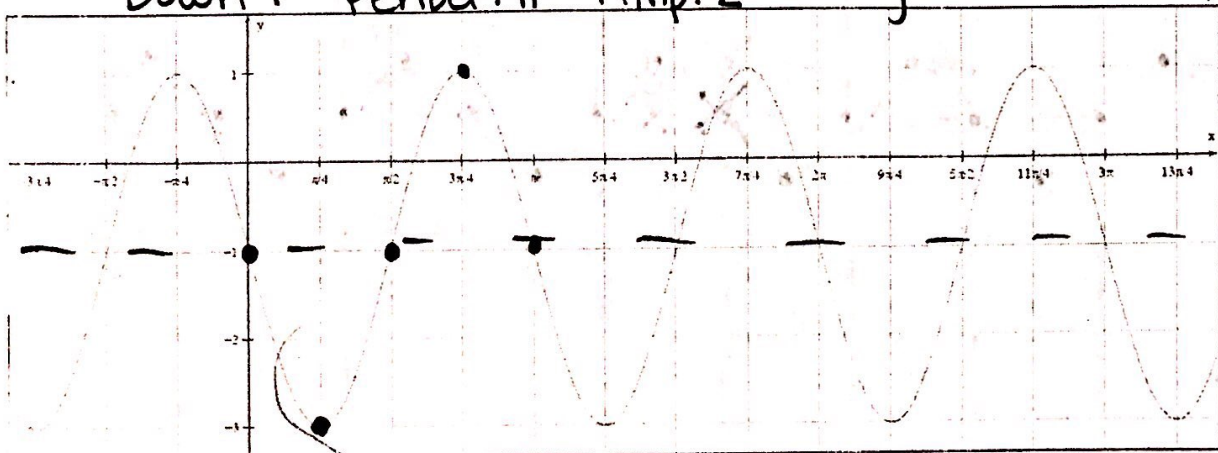
- a. Right $\frac{7\pi}{11}$; reflect across the x axis; stretch by $\frac{2}{3}$; has a period of $\frac{\pi}{5}$

Answer: _____

7. Sine Function

Down 1 Reflect
Period: π Amp: 2

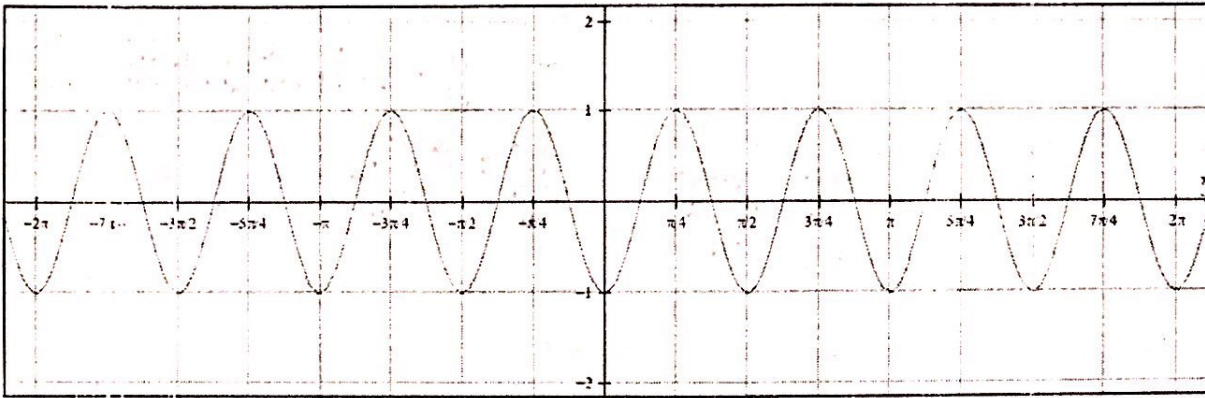
Answer: $y = -2\sin 2(x) - 1$



$$\frac{2\pi}{b} = \frac{\pi}{1} \quad \frac{2\pi}{\pi} = \frac{\pi b}{\pi} \quad 2 = b$$

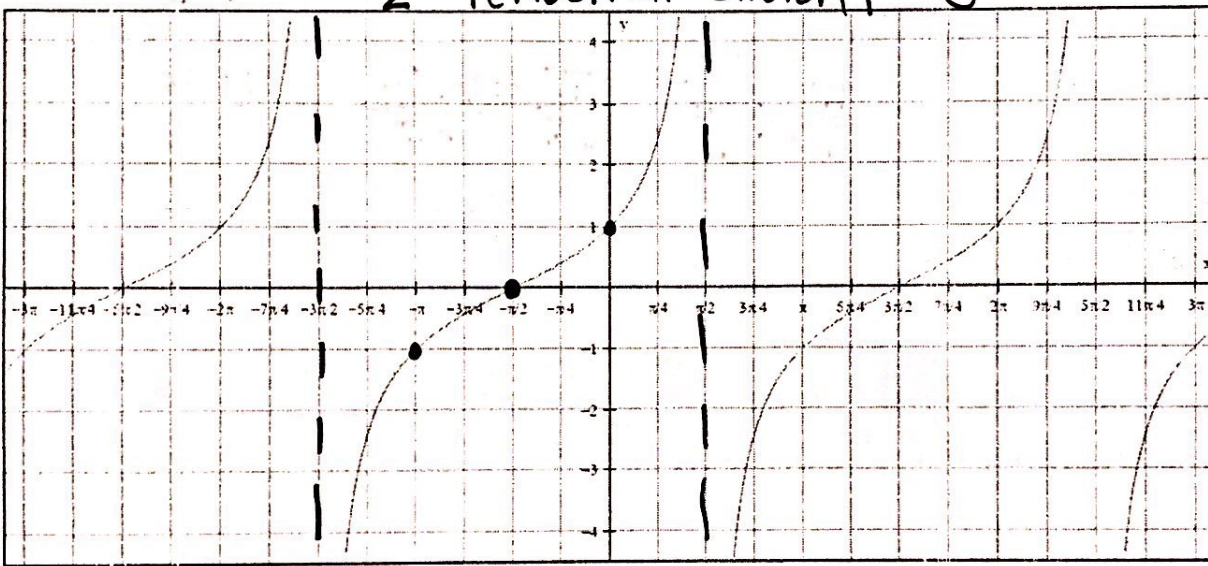
8. Cosine Function

Answer: _____



9. Tangent Function

Left $+\frac{\pi}{2}$ Period: 2π stretch 1 Answer: $y = \tan\frac{1}{2}(x + \frac{\pi}{2})$



Period $\frac{3\pi}{2} + \frac{\pi}{2}$
 $\frac{4\pi}{2}$
 2π
 $\frac{\pi}{b} = \frac{2\pi}{b}$
 $\frac{1}{2} = b$

10. Cosecant Function

Answer: _____

Secant Function

Answer: _____

CSC
 SIN
 SEC
 COS

