

8.3 Evaluation of Sinusoidal Functions

Name: _____

#1-4 For each of the following functions use **algebraic** methods to:

- a.) Find $f(x)$ for the given value of x
- b.) Find the general solutions and the first three positive values of x for the given value of $f(x)$

Round to three decimal places.

$$1. \quad f(x) = 2 + 5 \cos \frac{\pi}{10}(x - 3)$$

a.) Find $f(8.3)$

b.) $f(x) = 5$

$$2. \quad y = 4 + 3 \sin \frac{\pi}{6}(x - 2)$$

a.) Find $f(12.7)$

b.) $f(x) = 6$

$$3. \quad y = -2 + 4 \sin \frac{\pi}{2}(x - 0.3)$$

a.) Find $f(2.8)$

b.) $f(x) = 0$

4. $y = -1 + 3 \cos \frac{\pi}{3}(x + 5.2)$

a.) Find $f(5)$

b.) $f(x) = 1$

#5-8 For each of the following functions *use your graphing calculator* to:

c.) Find $f(x)$ for the given value of x

d.) Find the first three positive values of x for the given value of $f(x)$

Round to three decimal places.

5. $y = 3 + 5 \sin \frac{\pi}{9}(x - 11)$

a.) Find $f(7)$

b.) $f(x) = 2$

6. $y = 1 + 6 \cos \frac{\pi}{13}(x - 20)$

a.) Find $f(4.3)$

b.) $f(x) = -4.5$

7. $y = 5 + 4 \sin \frac{\pi}{12}(x + 10)$

a.) Find $f(1)$

b.) $f(x) = 2.5$

8. $y = 1 + 3 \cos \frac{\pi}{8}(x + 7)$

a.) Find $f(13)$

b.) $f(x) = -1$