

## Inverse Trig Problems

For each of the following functions,

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

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

- a. Find  $f(7.8)$
- b.  $f(x) = 6$

7.  $f(x) = 5 + 2\cos\frac{\pi}{4}(x-10)$

- a. Find  $f(17.3)$
- b.  $f(x) = 6.7$

2.  $f(x) = 4 + 3\cos\frac{\pi}{6}(x-2)$

- a. Find  $f(10.2)$
- b.  $f(x) = 6$

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

- a. Find  $f(3.4)$
- b.  $f(x) = -4.9$

3.  $f(x) = -2 + 4\cos\frac{\pi}{2}(x-0.3)$

- a. Find  $f(3)$
- b.  $f(x) = 1$

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

- a. Find  $f(8)$
- b.  $f(x) = 2$

4.  $f(x) = -1 + 3\cos\frac{\pi}{3}(x-0.7)$

- a. Find  $f(5)$
- b.  $f(x) = 1$

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

- a. Find  $f(1)$
- b.  $f(x) = 2$

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

- a. Find  $f(14)$
- b.  $f(x) = 1.5$

11.  $f(x) = 2 + 0.5\tan\frac{\pi}{8}(x-3)$

- a. Find  $f(2)$
- b.  $f(x) = 7$

6.  $f(x) = -2 + 5\cos\frac{\pi}{11}(x+13)$

- a. Find  $f(8)$
- b.  $f(x) = -4$

12.  $f(x) = 3 + 2\sec\frac{\pi}{10}(x-1)$

- a. Find  $f(4)$
- b.  $f(x) = 8$



## Answers

- . a) 2.31  
b) 0.95, 5.05, 20.95
2. a) 2.78  
b) 0.39, 3.61, 12.39
3. a) -3.82  
b) 0.76, 3.84, 4.76
4. a) -1.62  
b) 1.50, 5.90, 7.50
5. a) -0.15  
b) 5.43, 12.57, 21.43
6. a) 2.80  
b) 2.06, 15.94, 24.062.
7. a) 6.71  
b) 1.29, 2.71, 9.29
8. a) -2.87  
b) 6.24, 7.76, 32.242.
9. a) -1.33  
b) 2.58, 10.42, 20.58
10. a) 6.04  
b) 5.24, 10.76, 29.242.
11. a) 1.793  
b) 6.746, 14.746, 22.746
12. a) 6.4026  
b) 4.69, 17.30, 24.69