

Determine amplitude and period :

1)  $y = 4 \sin \frac{1}{3}x$

1) \_\_\_\_\_

A)  $A = 4, P = 6\pi$

B)  $A = -4, P = \frac{\pi}{4}$

C)  $A = 4, P = 3\pi$

D)  $A = 4, P = \frac{4\pi}{3}$

2)  $y = -3 \cos \frac{1}{2}x$

2) \_\_\_\_\_

A)  $A = -3, P = \pi$

B)  $A = 3, P = \frac{\pi}{2}$

C)  $A = 3, P = \frac{3\pi}{2}$

D)  $A = 3, P = 4\pi$

3)  $y = 5 \sin \left( 7x - \frac{\pi}{2} \right)$

3) \_\_\_\_\_

A)  $A = 5, P = \frac{2\pi}{7}$

B)  $A = 5, P = \frac{7}{2}$

C)  $A = -5, P = \frac{2}{7}$

D)  $A = 5, P = \frac{7\pi}{2}$

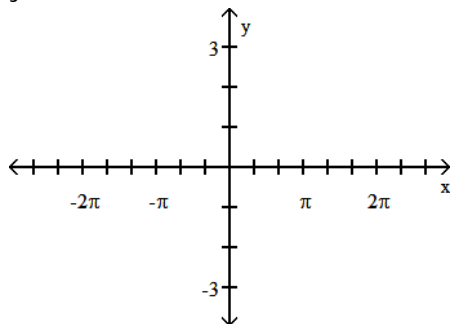
Determine the phase shift of the function.

4)  $y = \frac{1}{2} \sin (3x + \pi)$

5)  $y = 2 \sin \left( 2x - \frac{\pi}{2} \right)$

Graph the function.

6)  $y = 3 \sin 3x$



Determine the phase shift of the function.

7)  $y = 5 \cos \left( \frac{1}{2}x + \frac{\pi}{2} \right)$

Find the exact value of the expression.

8)  $\sin^{-1} \frac{\sqrt{2}}{2}$

8) \_\_\_\_\_

A)  $\frac{2\pi}{3}$

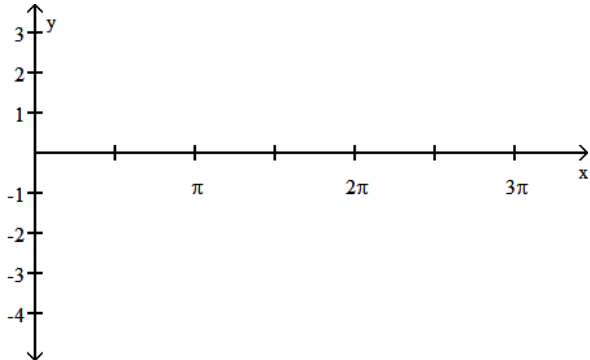
B)  $\frac{\pi}{4}$

C)  $\frac{\pi}{3}$

D)  $\frac{3\pi}{4}$

Graph the function and  $y = \cos x$  in the same rectangular system for  $0 \leq x \leq 2\pi$ .

9)  $y = 3 \cos x$



Use a calculator to find the value of the expression rounded to two decimal places.

10)  $\tan^{-1} (-1.9)$

10) \_\_\_\_\_

A) -0.48

B) -62.24

C) -1.09

D) -27.76

11)  $\sin^{-1} (0.1)$

11) \_\_\_\_\_

A) 5.74

B) 1.47

C) 84.26

D) 0.10

Use a sketch to find the exact value of the expression.

12)  $\cos \left( \sin^{-1} \frac{4}{5} \right)$

12) \_\_\_\_\_

A)  $\frac{1}{5}$

B)  $-\frac{3}{5}$

C)  $\frac{3}{5}$

D)  $-\frac{4}{5}$

13)  $\csc \left( \tan^{-1} \frac{\sqrt{3}}{3} \right)$

13) \_\_\_\_\_

A)  $\frac{1}{2}$

B)  $\frac{2\sqrt{3}}{3}$

C)  $\sqrt{3}$

D) 2

14)  $\cot \left( \sin^{-1} \frac{\sqrt{2}}{2} \right)$

14) \_\_\_\_\_

A) 1

B)  $\sqrt{2}$

C) 2

D)  $\frac{\sqrt{2}}{2}$

Use a calculator to find the value of the expression rounded to two decimal places.

15)  $\cos^{-1} \left( -\frac{1}{3} \right)$

15) \_\_\_\_\_

A) -19.47

B) 109.47

C) 1.91

D) -0.34

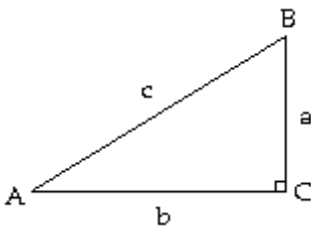
- 16)  $\sin^{-1}\left(\frac{3}{7}\right)$  16) \_\_\_\_\_  
 A) 64.62 B) 0.44 C) 25.38 D) 1.13

Use a right triangle to write the expression as an algebraic expression. Assume that  $x$  is positive and in the domain of the given inverse trigonometric function.

- 17)  $\sin(\tan^{-1} \frac{x}{\sqrt{2}})$  17) \_\_\_\_\_  
 A)  $\frac{x\sqrt{x^2 - 2}}{x^2 - 2}$  B)  $\frac{\sqrt{x^2 + 2}}{x^2 + 2}$  C)  $\frac{x\sqrt{x^2 + 2}}{x^2 + 2}$  D)  $x\sqrt{x^2 + 2}$

- 18)  $\cos(\sin^{-1} \frac{x}{\sqrt{2}})$  18) \_\_\_\_\_  
 A)  $\frac{\sqrt{x^2 + 2}}{x^2 + 2}$  B)  $\frac{\sqrt{2(2-x^2)}}{2}$  C)  $x\sqrt{2}$  D)  $\frac{x\sqrt{x^2 - 2}}{x^2 - 2}$

Solve the right triangle shown in the figure. Round lengths to one decimal place and express angles to the nearest tenth of a degree.



- 19)  $A = 53.7^\circ, c = 41.7$  19) \_\_\_\_\_  
 A)  $B = 53.7^\circ, a = 33.6, b = 24.7$  B)  $B = 36.3^\circ, a = 24.7, b = 33.6$   
 C)  $B = 53.7^\circ, a = 24.7, b = 33.6$  D)  $B = 36.3^\circ, a = 33.6, b = 24.7$
- 20)  $b = 120, c = 470$  20) \_\_\_\_\_  
 A)  $A = 75.2^\circ, B = 14.8^\circ, a = 454.4$  B)  $A = 14.3^\circ, B = 75.7^\circ, a = 454.4$   
 C)  $A = 75.7^\circ, B = 14.3^\circ, a = 485.1$  D)  $A = 75.2^\circ, B = 14.8^\circ, a = 485.1$

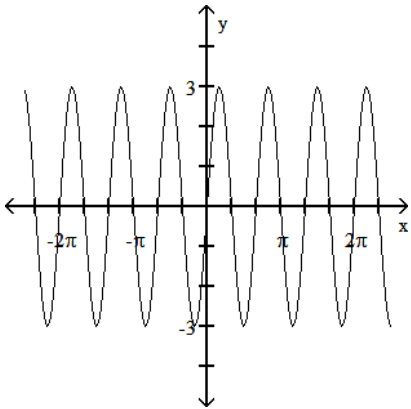
Solve the problem.

- 21) A surveyor is measuring the distance across a small lake. He has set up his transit on one side of the lake 140 feet from a piling that is directly across from a pier on the other side of the lake. From his transit, the angle between the piling and the pier is  $40^\circ$ . What is the distance between the piling and the pier to the nearest foot? 21) \_\_\_\_\_  
 A) 107 feet B) 167 feet C) 117 feet D) 90 feet
- 22) A building 190 feet tall casts a 90 foot long shadow. If a person looks down from the top of the building, what is the measure of the angle between the end of the shadow and the vertical side of the building (to the nearest degree)? (Assume the person's eyes are level with the top of the building.) 22) \_\_\_\_\_  
 A)  $62^\circ$  B)  $65^\circ$  C)  $25^\circ$  D)  $28^\circ$

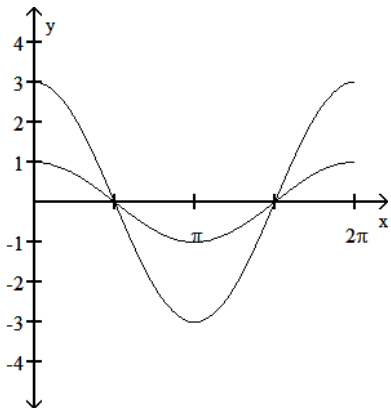
Answer Key

Testname: REVIEW02

- 1) A
- 2) D
- 3) A
- 4)  $\frac{\pi}{3}$  units to the left
- 5)  $\frac{\pi}{4}$  units to the right
- 6)



- 7)  $\pi$  units to the left
- 8) B
- 9)



- 10) C
- 11) D
- 12) C
- 13) D
- 14) A
- 15) C
- 16) B
- 17) C
- 18) B
- 19) D
- 20) A
- 21) C
- 22) C