

1. Solve  $0 \leq x < 360$ :  $4 \sin^2 x = 1$

1. \_\_\_\_\_

2. If  $\sin A = -4/5$  and  $\cos A > 0$  and  $\sin B = 3/5$  and  $\cos B < 0$ , find the exact value of  $\sin (A + B)$ .

2. \_\_\_\_\_

3. In  $\triangle ABC$ , if  $a = 8$ ,  $b = 7$  and  $c = 5$ , find to the nearest degree,  $m < B$ .

3. \_\_\_\_\_

4. Which statement is true?

4. \_\_\_\_\_

a.  $\sin 30 = \frac{1}{2} \sin 60$       b.  $\sin 30 + \sin 60 = \sin 90$

c.  $(\sin 30) (\csc 30) = 1$       d.  $(\sin 30)^2 = 2$

5. What is the value of  $-495^\circ$  in radians? 5. \_\_\_\_\_
6. In  $\triangle ABC$ ,  $m\angle C = 30$ , and  $a = 8$ . If the area of the triangle is 12, what is the length of  $b$ ? 6. \_\_\_\_\_
7. As  $\theta$  increases in the interval from  $\frac{\pi}{2}$  to  $\frac{3\pi}{2}$  radians, the value of  $\cos \theta$  will 7. \_\_\_\_\_  
a. always increase                      b. always decrease  
c. increase then decrease              d. decrease then increase
8. In  $\triangle ABC$ ,  $m\angle A = 60$ ,  $m\angle B = 45$  and  $b = 4$ . 8. \_\_\_\_\_  
What is the length of side  $a$ ?  
a.  $2\sqrt{6}$       b.  $2\sqrt{2}$       c.  $\frac{\sqrt{6}}{2}$       d.  $\frac{16}{3}$
9. The expression  $\cot(-200)$  is equivalent to 9. \_\_\_\_\_  
a.  $\tan 70$       b.  $-\cot 20$       c.  $-\tan 20$       d.  $\cot 70$
10. What is the exact value of  $\cos \frac{2\pi}{3}$ ? 10. \_\_\_\_\_

11. The complex fraction

11. \_\_\_\_\_

$$\frac{\cos x - \frac{\sin^2 x}{\cos x}}{1 + \frac{\sin x}{\cos x}}$$

Is equivalent to

a.  $\cos x + \sin x$

b.  $\cos x - \sin x$

c.  $\frac{1}{\cos x + \sin x}$

d.  $\frac{1}{\cos x - \sin x}$

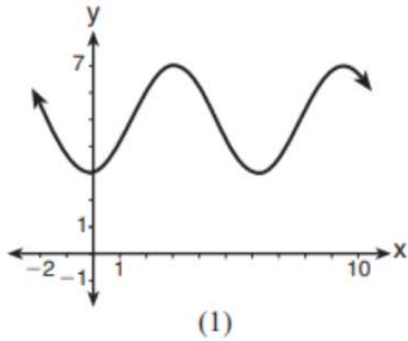
12. Solve  $0 \leq x < 360$ :

12. \_\_\_\_\_

$$5 \cos 2x - 3 \sin x - 4 = 0$$

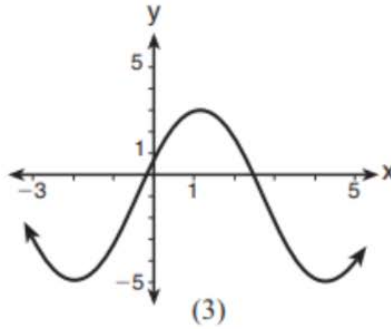
13.

Which has the greatest amplitude?



$$y = 3 \sin(\theta - 3) + 5$$

(2)



$$y = -5 \sin(\theta - 1) - 3$$

(4)

14. In  $\triangle ABC$ ,  $a = 19$ ,  $b = 15$  and  $c = 10$ .  
Find  $m \angle A$  to the nearest degree.

14. \_\_\_\_\_

15. Solve for angles  $A$  and  $B$  to the nearest degree between  $0$  and  $360$

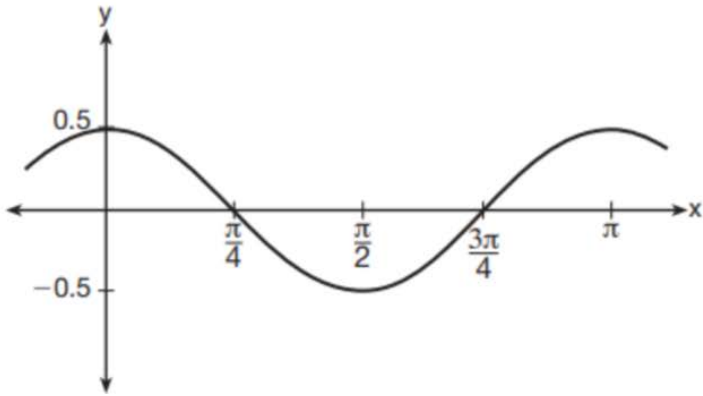
15. \_\_\_\_\_

$$2 \sin A + 3 \sin B = 2$$

$$6 \sin A - 6 \sin B = 1$$

14.

14. \_\_\_\_\_



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

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

(2)  $y = \cos x$

(4)  $y = 2 \cos \frac{1}{2}x$