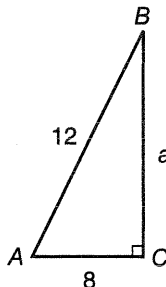


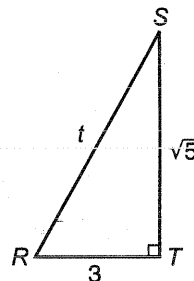
## Chapter 5 Test

Write the letter for the correct answer in the blank at the right of each problem.

- Change  $128.433^\circ$  to degrees, minutes, and seconds.
  - $128^\circ 25' 58''$
  - $128^\circ 25' 59''$
  - $128^\circ 25' 92''$
  - $128^\circ 26' 00''$
- Write  $43^\circ 18' 35''$  as a decimal to the nearest thousandth of a degree.
  - $43.306^\circ$
  - $43.308^\circ$
  - $43.309^\circ$
  - $43.310^\circ$
- Give the angle measure represented by 3.25 rotations clockwise.
  - $-1170^\circ$
  - $-90^\circ$
  - $90^\circ$
  - $1170^\circ$
- Identify all coterminal angles between  $-360^\circ$  and  $360^\circ$  for the angle  $-420^\circ$ .
  - $-60^\circ$  and  $300^\circ$
  - $-30^\circ$  and  $330^\circ$
  - $30^\circ$  and  $-330^\circ$
  - $60^\circ$  and  $-300^\circ$
- Find the measure of the reference angle for  $1046^\circ$ .
  - $-56^\circ$
  - $56^\circ$
  - $34^\circ$
  - $-34^\circ$
- Find the value of the tangent for  $\angle A$ .
  - $\frac{2\sqrt{5}}{2}$
  - $\frac{\sqrt{5}}{2}$
  - $\frac{2}{3}$
  - $\frac{\sqrt{5}}{3}$



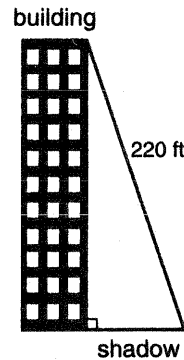
- Find the value of the secant for  $\angle R$ .
  - $\frac{\sqrt{70}}{5}$
  - $\frac{3\sqrt{14}}{14}$
  - $\frac{\sqrt{5}}{3}$
  - $\frac{\sqrt{14}}{3}$



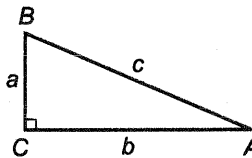
- Which of the following is equal to  $\csc \theta$ ?
  - $\frac{1}{\sin \theta}$
  - $\frac{1}{\cos \theta}$
  - $\frac{1}{\tan \theta}$
  - $\frac{1}{\sec \theta}$
- If  $\cot \theta = 0.85$ , find  $\tan \theta$ .
  - 0.588
  - 0.85
  - 1.176
  - 1.7
- Find  $\cos(-270^\circ)$ .
  - undefined
  - 1
  - 1
  - 0
- Find the exact value of  $\sec 300^\circ$ .
  - 2
  - $-\frac{2\sqrt{3}}{3}$
  - 2
  - $\frac{2\sqrt{3}}{3}$
- Find the value of  $\csc \theta$  for angle  $\theta$  in standard position if the point at  $(5, -2)$  lies on its terminal side.
  - $-\frac{\sqrt{29}}{2}$
  - $-\frac{2\sqrt{29}}{29}$
  - $\frac{\sqrt{29}}{5}$
  - $\frac{5\sqrt{29}}{29}$
- Suppose  $\theta$  is an angle in standard position whose terminal side lies in Quadrant II. If  $\sin \theta = \frac{12}{13}$ , find the value of  $\sec \theta$ .
  - $-\frac{5}{13}$
  - $-\frac{13}{5}$
  - $-\frac{12}{5}$
  - $\frac{13}{12}$

## Chapter 5 Test,

For Exercises 14 and 15, refer to the figure. The angle of elevation from the end of the shadow to the top of the building is  $63^\circ$  and the distance is 220 feet.



14. Find the height of the building to the nearest foot.  
 A. 100 ft      B. 196 ft  
 C. 432 ft      D. 112 ft
15. Find the length of the shadow to the nearest foot.  
 A. 100 ft      B. 196 ft  
 C. 432 ft      D. 112 ft
16. If  $0^\circ \leq x \leq 360^\circ$ , solve the equation  $\sec x = -2$ .  
 A.  $150^\circ$  and  $210^\circ$       B.  $210^\circ$  and  $330^\circ$   
 C.  $120^\circ$  and  $240^\circ$       D.  $240^\circ$  and  $300^\circ$
17. Assuming an angle in Quadrant I, evaluate  $\csc\left(\cot^{-1}\frac{4}{3}\right)$ .  
 A.  $\frac{3}{5}$       B.  $\frac{5}{3}$       C.  $\frac{4}{5}$       D.  $\frac{5}{4}$
18. Given the triangle at the right, find  $B$  to the nearest tenth of a degree if  $b = 10$  and  $c = 14$ .  
 A.  $44.4^\circ$       B.  $35.5^\circ$   
 C.  $54.5^\circ$       D.  $45.6^\circ$



For Exercises 19 and 20, round answers to the nearest tenth.

19. In  $\triangle ABC$ ,  $A = 27^\circ 35'$ ,  $B = 78^\circ 23'$ , and  $c = 19$ . Find  $a$ .  
 A. 8.6      B. 9.2      C. 12.8      D. 19.4
20. If  $A = 42.2^\circ$ ,  $B = 13.6^\circ$ , and  $a = 41.3$ , find the area of  $\triangle ABC$ .  
 A. 138.8 units<sup>2</sup>      B. 493.8 units<sup>2</sup>      C. 327.4 units<sup>2</sup>      D. 246.9 units<sup>2</sup>
21. Determine the number of possible solutions if  $A = 62^\circ$ ,  $a = 4$ , and  $b = 6$ .  
 A. none      B. one      C. two      D. three
22. Determine the greatest possible value for  $B$  if  $A = 30^\circ$ ,  $a = 5$ , and  $b = 8$ .  
 A.  $23.1^\circ$       B.  $53.1^\circ$       C.  $126.9^\circ$       D.  $96.9^\circ$

For Exercises 23-25, round answers to the nearest tenth.

23. In  $\triangle ABC$ ,  $A = 47^\circ$ ,  $b = 12$ , and  $c = 8$ . Find  $a$ .  
 A. 6.3      B. 8.7      C. 8.8      D. 18.4
24. In  $\triangle ABC$ ,  $a = 7.8$ ,  $b = 4.2$ , and  $c = 3.9$ . Find  $B$ .  
 A.  $15.1^\circ$       B.  $148.7^\circ$       C.  $78.9^\circ$       D.  $16.2^\circ$
25. If  $a = 22$ ,  $b = 14$ , and  $c = 30$ , find the area of  $\triangle ABC$ .  
 A. 33 units<sup>2</sup>      B. 121.0 units<sup>2</sup>      C. 130.2 units<sup>2</sup>      D. 143.8 units<sup>2</sup>

1. B, 2. D, 3. A, 4. A, 5. C, 6. B, 7. D, 8. A, 9. C, 10. D, 11. C, 12. A

13. B, 14. B, 15. A, 16. C, 17. B, 18. D, 19. B, 20. D, 21. A, 22. C, 23. C, 24. D

25. D