

Chapter 5 Test, Form 2A

1. Change 225.639° to degrees, minutes, and seconds. 1. _____

2. Write $23^\circ 16' 25''$ as a decimal to the nearest thousandth of a degree. 2. _____

3. State the angle measure represented by 2.4 rotations clockwise. 3. _____

4. Identify all coterminal angles between -360° and 360° for the angle -540° . 4. _____

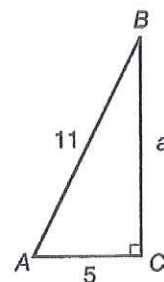
5. Find the measure of the reference angle for 562° . 5. _____

For Exercises 6–8, refer to the figure.

6. Find the value of the sine for $\angle A$. 6. _____

7. Find the value of the cotangent for $\angle A$. 7. _____

8. Find the value of the secant for $\angle A$. 8. _____



Exercises 6–8

9. If $\csc \theta = -2$, find $\sin \theta$. 9. _____

10. Find $\sin(-270^\circ)$. 10. _____

11. Find the exact value of $\cot 330^\circ$. 11. _____

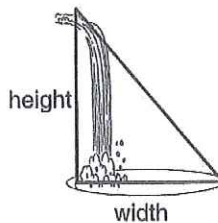
12. Find the exact value of $\sec \theta$ for angle θ in standard position if the point at $(-3, 2)$ lies on its terminal side. 12. _____

13. Suppose θ is an angle in standard position whose terminal side lies in Quadrant IV. If $\cos \theta = \frac{12}{13}$, find the value of $\csc \theta$. 13. _____

Chapter 5 Test, Form 2A (continued)

For Exercises 14 and 15, refer to the figure. The angle of elevation from the far side of the pool to the top of the waterfall is 75° , and the distance is 185 feet.

14. Find the height of the waterfall to the nearest foot.

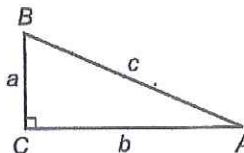


15. Find the width across the pool to the nearest foot.

16. If $0^\circ \leq x \leq 360^\circ$, solve $\cot x = -\sqrt{3}$.

17. Assuming an angle in Quadrant I, evaluate $\sec\left(\tan^{-1}\frac{3}{4}\right)$.

18. Given triangle at the right, find B to the nearest tenth of a degree if $a = 8$ and $b = 20$.



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

19. In $\triangle ABC$, $A = 47^\circ 15'$, $B = 58^\circ 33'$, and $c = 23$. Find a .

20. If $A = 37.2^\circ$, $B = 17.9^\circ$, and $a = 22.3$, find the area of $\triangle ABC$.

21. Determine the number of possible solutions if $A = 47^\circ$, $a = 4$, and $b = 5$.

22. Determine the least possible value for c if $A = 30^\circ$, $a = 5$, and $b = 8$.

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

23. In $\triangle ABC$, $A = 118^\circ$, $b = 8$, and $c = 6$. Find a .

24. In $\triangle ABC$, $a = 9$, $b = 5$, and $c = 12$. Find B .

25. If $a = 12$, $b = 24$, and $c = 30$, find the area of $\triangle ABC$.

Bonus The terminal side of an angle θ in standard position coincides with the line $3x + y = 0$ in Quadrant II. Find $\csc \theta$ to the nearest thousandth.

Bonus: _____