

1. Change  $28.63^\circ$  to degrees, minutes, seconds
2. Write  $248^\circ 16' 15''$  as a decimal to the nearest thousandth of a degree
3. State the angle measure represented by 3.25 rotations counterclockwise
4. Identify all coterminal angles between  $-360^\circ$  and  $360^\circ$  for the angle  $520^\circ$  (hint: there are two)
5. Find the measure of the reference angle for  $130^\circ$
  
6. Find the value of cosine for  $\angle A$
7. Find the value of the cosecant for  $\angle A$
8. Find the value of cotangent for  $\angle A$
9. If  $\sec \theta = \frac{5}{2}$ , find  $\cos \theta$
10. Find the value of  $\tan(-360)$
11. Find the exact value of  $\sec(240)$
12. Find the exact value of  $\sec \theta$  for angle  $\theta$  in standard position if the point at  $(-4,5)$  lies on its terminal side
13. If  $\theta$  is in Quadrant IV and  $\cos \theta = \frac{12}{13}$ , what is the value of  $\tan \theta$ ?
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 for the equation  $\csc x = -2$
17. Assuming an angle in Quadrant I, evaluate  $\sin(\cot^{-1} \frac{12}{5})$
18. Given the triangle, find  $m\angle B$  to the nearest tenth of a degree if  $a = 12$  and  $c = 22$

**Round to the nearest tenth**

19. In  $\triangle ABC$ ,  $A = 42^\circ$ ,  $B = 68^\circ$ ,  $c = 15$ . Find  $a$
20. If  $A = 27.2^\circ$ ,  $B = 67.4^\circ$ ,  $a = 12.8$ , find the area of  $\triangle ABC$

21. In  $\triangle ABC$ ,  $A = 59^\circ$ ,  $b = 12$ ,  $c = 4$ . Find  $a$
22. in  $\triangle ABC$ ,  $a = 4$ ,  $b = 11$ ,  $c = 8$ . Find  $m\angle B$
23. If  $a = 21$ ,  $b = 15$ , and  $c = 28$ , find the area of  $\triangle ABC$
24. The terminal side of an angle  $\theta$  in standard position coincides with the line  $3x - y = 0$  in Quadrant III. Find  $\cos \theta$  to the nearest ten-thousand (Hint: graph the linear equation)