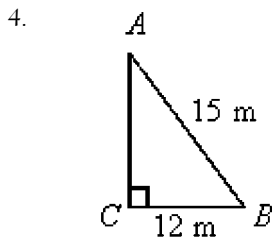Algebra III: Worksheet 7

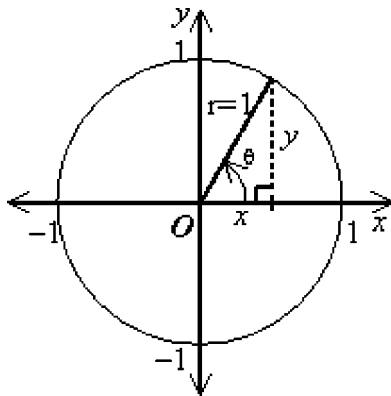Short Answer

1. Change 250.52° to degrees, minutes, and seconds.

2. Write 62° 21′ 47′′ as a decimal to the nearest thousandth.

3. Find the least positive angle measurement that is coterminal with −240°.

   Find the values of the six trigonometric ratios for ∠A.

4.

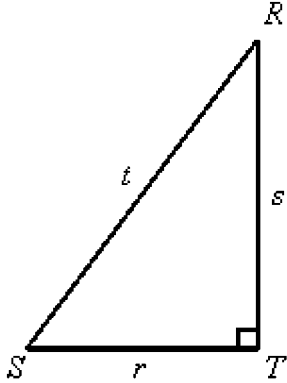
5. If $\sec\theta = \dfrac{5}{3}$, find $\cot\theta$.

6. Use the unit circle to find the value of $\sin(-360°)$.


7. Find $\tan\theta$ if θ is an angle in standard position and the point with coordinates (4, 3) lies on the terminal side of the angle.

8. Evaluate $\sec\left(\sin^{-1}\dfrac{\sqrt{3}}{2}\right)$. Assume that all the angles are in Quadrant I.

9. If $t = 26$ and $s = 11.8$, find R. Round to the nearest tenth.

10. In right triangle ABC, $a = 7$, $b = 12$, and $\angle C$ is the right angle. Solve the triangle.

11. Given a triangle with $a = 16$, $A = 39°$, and $B = 28°$, what is the length of c? Round to the nearest tenth.

12. Find the area of the triangle with $a = 4$ feet, $b = 8$ feet, and $c = 11$ feet. Round to the nearest tenth.

13. How many triangles are there that satisfy the conditions $a = 14$, $b = 2$, $\alpha = 66°$?

14. Find all solutions for the triangle with $f = 37$, $e = 34$, $F = 22°$. If no solutions exist, write *none*. Round to the nearest tenth.
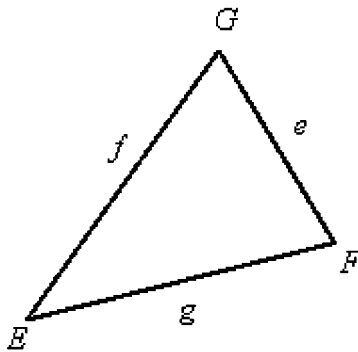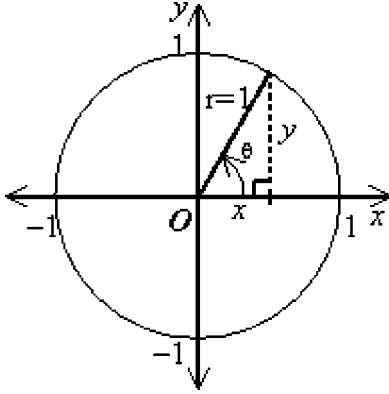

15. Find the area of the triangle with $a = 11.8$, $b = 12.6$, $c = 14.8$. Round to the nearest tenth.

Solve the equation if $0° \le x \le 360°$.

16. $\tan x = \sqrt{3}$

17. $\sin x = -\dfrac{\sqrt{2}}{2}$
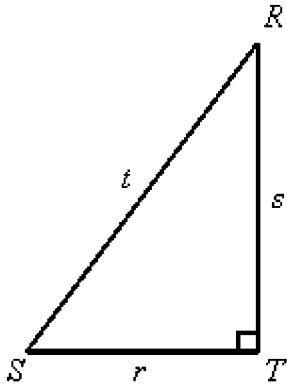
18. If $\tan\theta = \dfrac{3}{4}$, find $\csc\theta$.

19. Use the unit circle to find the value of $\cot(-180°)$.

*Evaluate the expression. Assume that all the angles are in Quadrant I.*

20. $\cos\left(\arctan\left(\dfrac{\sqrt{3}}{7}\right)\right)$

21. If $t = 17$ and $r = 8$, find S. Round to the nearest tenth.

22. In right triangle ABC, $a = 120$ and $c = 140$, and $\angle C$ is the right angle. Solve the triangle. Round to the nearest tenth, if necessary.

23. Solve triangle ABC given that $A = 58°$, $B = 57°$, and $b = 12$.

24. Find the area of the triangle with $A = 45°$, $b = 10$ feet, and $c = 6$ feet. Round to the nearest tenth.

25. How many triangles are there that satisfy the conditions $a = 3$, $b = 4$, $\alpha = 76°$?

26. Find all solutions for the triangle with $e = 8, f = 8, E = 56°$. If no solutions exist, write *none*. Round to the nearest tenth.
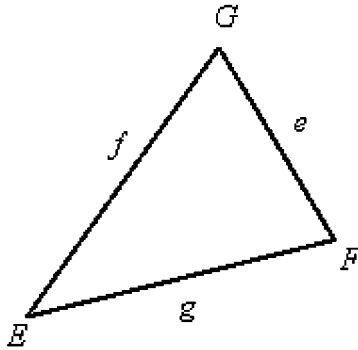
27. Given a triangle with $b = 6, c = 9$, and $A = 47°$, what is the length of a? Round to the nearest tenth.