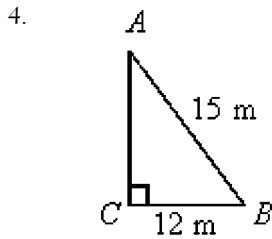


Algebra III: Worksheet 7

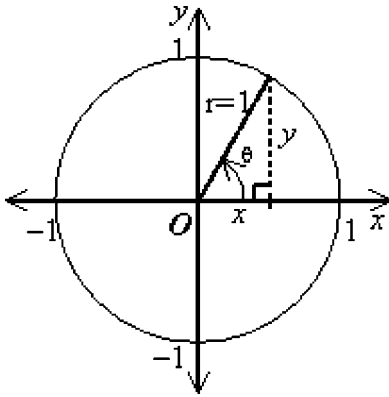
Short Answer

1. Change 250.52° to degrees, minutes, and seconds.
2. Write $62^\circ 21' 47''$ 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 $\angle A$.



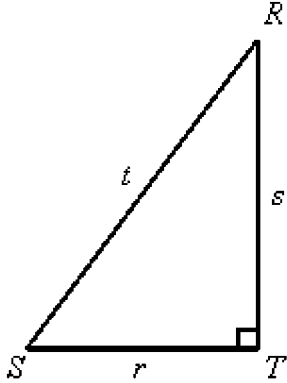
5. If $\sec \theta = \frac{5}{3}$, find $\cot \theta$.
6. Use the unit circle to find the value of $\sin(-360^\circ)$.



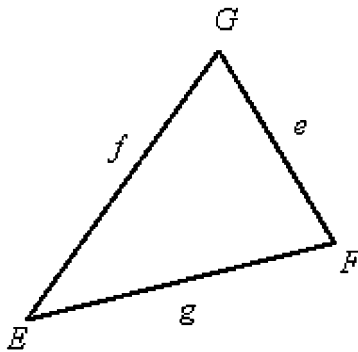
7. Find $\tan \theta$ if θ is an angle in standard position and the point with coordinates $(4, 3)$ lies on the terminal side of the angle.

8. Evaluate $\sec \left(\sin^{-1} \frac{\sqrt{3}}{2} \right)$. 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 $a = 16$, $A = 39^\circ$, and $B = 28^\circ$, 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 $a = 14$, $b = 2$, $\alpha = 66^\circ$?
14. Find all solutions for the triangle with $f = 37$, $e = 34$, $F = 22^\circ$. If no solutions exist, write *none*. Round to the nearest tenth.

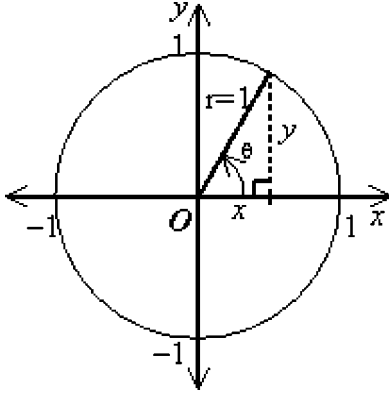


15. Find the area of the triangle with $a = 11.8$, $b = 12.6$, $c = 14.8$. Round to the nearest tenth.

Solve the equation if $0^\circ \leq x \leq 360^\circ$.

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

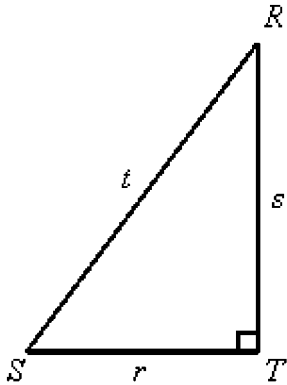
19. Use the unit circle to find the value of $\cot(-180^\circ)$.



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

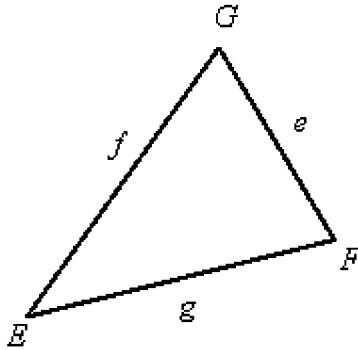
20. $\cos\left(\arctan\left(\frac{\sqrt{3}}{7}\right)\right)$

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 $A = 58^\circ$, $B = 57^\circ$, and $b = 12$.
24. Find the area of the triangle with $A = 45^\circ$, $b = 10$ feet, and $c = 6$ feet. Round to the nearest tenth.
25. How many triangles are there that satisfy the conditions $a = 3$, $b = 4$, $\alpha = 76^\circ$?

26. Find all solutions for the triangle with $e = 8, f = 8, E = 56^\circ$. If no solutions exist, write *none*. Round to the nearest tenth.



27. Given a triangle with $b = 6, c = 9$, and $A = 47^\circ$, what is the length of a ? Round to the nearest tenth.