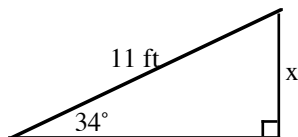


1. In  $\triangle ABC$ ,  $A = 47^\circ$ ,  $C = 39^\circ$ ,  $b = 219$ . Solve the triangle.

2. Find  $x$ :



3. Completely Simplify:  $\frac{\cos x}{1 + \sin x} + \frac{1 + \sin x}{\cos x}$

4. Solve over  $[0, 2\pi)$ :  $\sec x \csc x = 2 \csc x$

5. Given:  $f(x) = x^2 - 4x - 5$  Find the zeros and find the maximum or minimum value of  $f(x)$ .

6. Let  $f(x) = x^2 + 3$  and  $g(x) = \sqrt{5x}$ .  
Find  $f(g(x))$  and  $g(f(x))$

7. Find all rational candidates for zeros of:  
 $f(x) = 6x^3 - 5x^2 + 2x - 5$

8. Given:  $f(x) = \begin{cases} 3 - 7x & \text{for } x < 2 \\ 15 & \text{for } 2 \leq x < 7 \\ 5x + 3 & \text{for } x \geq 7 \end{cases}$  Find  $f(1) + f(8)$

9. Given:  $f(x) = \frac{x^2 - 9}{x^2 - 2x - 3}$  Find the Domain.

10. Find the Range for #9.

11. Find the x-intercept(s) for #9.

12. Find the y-intercept(s) for #9.

13. Find the Horizontal Asymptotes for #9.

14. Find the Vertical Asymptotes for #9.

15. Find the Slant Asymptotes for #9.

16. Find the Hole(s) for #9.

17. Draw the Graph for #9.

18. Solve for x:  $\frac{x^2 + 4x - 12}{x^2 - 5x - 14} \leq 0$