

# ALEKS

1. Solve the equation:  $2x + 5 = 13$ .
2. Simplify the expression:  $3x^2 + 2x - 7$ .
3. Find the derivative of  $f(x) = 3x^2 + 4x - 2$ .
4. Calculate the area of a triangle with base 5 cm and height 8 cm.
5. Determine the value of  $y$  when  $x = 3$  in the equation  $2x + 3y = 12$ .
6. Solve the inequality:  $2x - 7 < 15$ .
7. Factor the quadratic expression:  $x^2 + 5x + 6$ .
8. Find the slope of the line passing through the points (2, 4) and (6, 10).
9. Evaluate the integral of  $f(x) = 2x + 3$  from  $x = 1$  to  $x = 5$ .
10. Simplify the radical expression:  $\sqrt{27x^3}$ .
11. Find the midpoint of the line segment with endpoints (3, 4) and (7, 10).
12. Solve the system of equations:  $2x + 3y = 10$  and  $4x - 2y = 6$ .
13. Calculate the volume of a cylinder with radius 4 cm and height 10 cm.
14. Determine the domain of the function  $f(x) = 1/(x - 3)$ .
15. Solve the logarithmic equation:  $\log(\text{base } 2)(x) = 5$ .
16. Find the inverse of the function  $f(x) = 2x + 3$ .
17. Simplify the complex fraction:  $(3x + 2)/(5x - 1)$ .

18. Determine the range of the function  $f(x) = x^2 - 4$ .

19. Solve the trigonometric equation:  $\sin(x) = 0.5$ .

20. Find the sum of the arithmetic series:  $2 + 5 + 8 + \dots + 20$ .

21. Calculate the standard deviation of the data set: 2, 4, 6, 8, 10.

22. Determine the discriminant of the quadratic equation:  $3x^2 + 2x + 1 = 0$ .

