

Add or subtract:

1. $(4x^2 - 2x + 5) + (4x^2 - 6x - 2)$

2. $(3x^2 + x - 4) - (3x^2 - 2x - 6)$

Factor the expression:

3. $x^2 - 2x - 8$

4. $x^2 - 36$

5. $24x^2 + 6x$

Solve:

6. $x^2 - 6x + 8 = 0$

7. $2x^2 - 12x = 0$

8. $3x^2 - 9 = 3$

Simplify the rational expressions: Hint: Factor First!!!

9. $\frac{x^2 + 7x + 12}{4x + 12}$

10. $\frac{x + 7}{x^2 - 49}$

11. $\frac{6x^4}{x^2 - 1} \cdot \frac{x + 1}{3x^2}$

12. $\frac{x^2 + 3x - 4}{x^2 + 6x + 8} \cdot \frac{2x + 4}{4x}$

13. $\frac{4}{x^2 - 9} \div \frac{(x - 3)}{x + 3}$

14. $\frac{x^2 - 25}{x^2 + 25} \div (x + 5)$

15. $\frac{3x + 2}{2x - 2} + \frac{x - 6}{2x - 2}$

16. $\frac{4x + 2}{x - 3} - \frac{3x - 1}{x - 3}$

17. $\frac{2x}{3} - \frac{3x}{4}$

18. $\frac{1}{x + 2} + \frac{2}{x - 4}$

Solve the equation:

19. $\frac{4}{x+1} = \frac{3}{x+2}$

20. $\frac{4}{x-2} + \frac{2}{3} = \frac{6}{x-2}$

Solve using the quadratic formula:

21. $x^2 - 5x - 4 = 0$

22. $x^2 - 4x + 5 = 0$

Perform the indicated operation (write the answer in standard form):

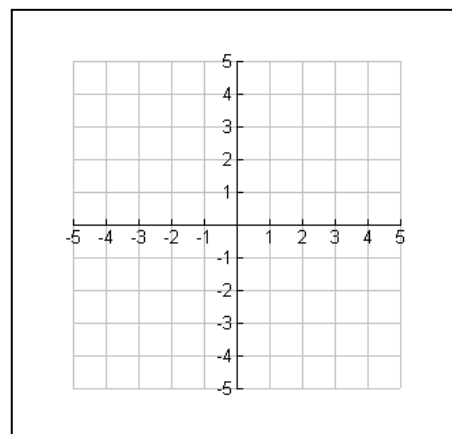
23. $(2 + 5i) - (5 - 3i)$

24. $(4 - 5i)(3 + 3i)$

Plot the points on the complex plan. Find the distance from the origin:

25. $-2 + 3i$

26. $4i$



Graph the following quadratic and put it in vertex form:

27. $f(x) = x^2 - 2x - 8$

