Write quadratic in standard form and sketch graph. Identify vertex and x-intercepts.

1. \( g(x) = x^2 + 8x + 10 \)

2. \( h(x) = 4x^2 + 4x + 5 \)

3. Determine right-hand and left-hand behavior of graph: \( f(x) = -x^5 - 7x^2 + 10x \)

4. Find all zeros and determine their multiplicity: \( f(x) = -12x^3 + 20x^2 \)

5. Sketch using leading coefficient test, by finding zeros, and by plotting points: \( 3x^2 - x^4 \)

6. Divide (long): \( \frac{x^4 - 3x^3 + 4x^2 - 6x + 3}{x^2 + 2} \)

7. Divide (synthetic): \( \frac{6x^4 - 4x^3 - 27x^2 + 18x}{x - 2} \)

8. Verify given factors, find remaining factors, write complete factorization. List all real zeros. \( x^4 - 4x^3 - 7x^2 + 22x + 24 = (x + 2)(x - 3) \)

Write complex number in standard form:

9. \( i(6 + i)(3 - 2i) \)

10. \( \frac{3 + 2i}{5 + i} \)

Find all zeros. Write as product of linear factors.

11. \( f(x) = x^3 + 6x \)

12. \( f(x) = x^3 + 4x^2 - 5x \)

13. Find domain: \( f(x) = \frac{8}{x^2 - 10x + 24} \)

State domain, identify asymptotes. Sketch.

14. \( f(x) = \frac{x^2 + 3x + 10}{x + 2} \)

15. \( f(x) = \frac{x^3}{x^2 - 4} \)