1. For each given polynomial,
a) Prove the polynomial algebraically.
) Verify the polynomial.

1. $(a-b)^3 = a^3 - b^3 - 3a^2b + 3ab^2$

a)   b)

2. $(3m + n)(m - 2n) = 3m^2 - 5mn - 2n^2$

a)   b)

3.   Solve the following equations by factoring.
    a) $125x^3 - 1 = 0$ b) $x^4 + 2x^2 - 15 = 0$

    c) $x^4 - 16 = 0$ d) $27x^3 + 8 = 0$

4.   **Solve by graphing: (Make sure to include a sketch of the graph).**
a) $15x^4 = 11x^3 + 14x^2$ b) $36x^3 + 6x^2 = 9x$