

1) Solve by graphing. (C)

$$x^3 - 1 = -x^2 + 4$$

2) Factor each polynomial completely. Do not solve. (NC)

a) $x^3 - 216$

b) $x^4 + 2x^2 - 3$

3) Use the given polynomial: (C)

$$(x - y)(x + y)^2 = x^3 + x^2y - xy^2 - y^3$$

a) Prove the polynomial algebraically.

b) Verify the polynomial numerically

4) Solve each of the equations. Find all the solutions. (NC)

a) $x^4 + x^2 - 90 = 0$

b) $x^3 + 216 = 0$