

Zeros and Roots

Date _____ Period _____

Find all roots.

1) $x^4 - 4$

2) $x^4 - 64$

3) $x^2 + 16$

4) $x^2 + 1$

5) $x^4 + 5x^2 - 24 = 0$

6) $x^4 - 4x^2 - 32 = 0$

7) $x^4 - 14x^2 + 45 = 0$

8) $x^4 + 7x^2 + 6 = 0$

$$9) 3x^3 - 16x^2 + 16x = 0$$

$$10) 5x^3 + 2x^2 - 3x = 0$$

$$11) 3x^3 - 2x^2 - 8x = 0$$

$$12) 2x^3 + 13x^2 + 15x = 0$$

Find all rational zeros. One factor has been given.

$$13) f(x) = 2x^3 - 3x^2 - 9x + 10; x + 2$$

$$14) f(x) = 3x^3 + 16x^2 - 5x - 50; x + 2$$

$$15) f(x) = 3x^3 - 29x^2 + 65x + 25; x - 5$$

$$16) f(x) = 3x^3 - 10x^2 - 37x + 60; x + 3$$