

Name: _____

Zeros of Polynomial Functions

1) Find all the zeros of the function.

1) $f(x) = x^3 + 24x^2 + 214x + 740$ 2) $f(x) = 2s^3 - 5s^2 + 12s - 5$

3) $f(x) = 16x^3 - 20x^2 - 4x + 15$ 4) $f(x) = 2x^4 + 5x^3 + 4x^2 + 5x + 2$

5) $f(x) = x^5 - 8x^4 + 28x^3 - 56x^2 + 64x - 32$

2) Write the polynomial in completely factored form

1) $f(x) = x^4 + 6x^2 - 27$

2) $f(x) = x^4 - 2x^3 - 3x^2 + 12x - 18$

3) $f(x) = x^4 - 4x^3 + 5x^2 - 2x - 6$

4) $f(x) = x^4 - 3x^3 - x^2 - 12x - 20$

3) For each of the following, find the roots of $f(x) = 0$

1) $y = f(x) = 3x^3 + 2x^2 - 3x - 2$

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

3) $y = f(x) = 4x^3 - 15x^2 + 12x + 4$

4) $y = f(x) = x^3 - 3x^2 + 3x - 1$

4) Factorize completely the expression $f(x) = 3x^3 + x^2 - 12x - 4$, and hence solve the equation $f(x) = 0$ 5) Factorize completely the expression $f(x) = 2x^3 + 7x^2 + 2x - 3$, and hence solve the equation $f(x) = 0$