

State the number of positive real zeros, negative real zeros, and imaginary zeros for each function.

1) $f(x) = x^3 - 4x^2 + 5x - 1$

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

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

Given a function and one of its zeros, find all of the zeros of the function.

4) $f(x) = 3x^3 - 12x$; 0

5) $f(x) = x^3 + 5x^2 - 2x - 24$; -4

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

7) $f(x) = x^3 - 26x^2 + 60$; $3 + i$

Write the polynomial function that has the given zeros.

8) -3, -2, 4

9) 5, $3i$