

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Give all possible rational zeros for the polynomial.

1) $f(x) = x^3 - 6x^2 + 3x - 24$ 1) _____

2) $f(x) = 2x^3 - 5x^2 + 7x - 11$ 2) _____

3) $f(x) = 10x^7 + 40x^3 + 2x - 5$ 3) _____

Find a polynomial equation with real coefficients that has the given roots.

4) $5i, -5i$ 4) _____

5) $2i, \sqrt{8}$ 5) _____

6) $3, 3, \sqrt{7}$ 6) _____

7) $3, -7, 2 + 5i$ 7) _____

Find all the zeros of the polynomial function.

8) $P(x) = 16x^3 - 24x^2 + 10x - 2$ 8) _____

9) $f(x) = 2x^4 + 11x^3 + 39x^2 + 43x + 13$, hint: $-1/2$. 9) _____

Given the polynomial function $f(x)$, find the rational zeros, then the other zeros (that is, solve the equation $f(x) = 0$), and factor $f(x)$ into linear factors.

10) $f(x) = x^3 - 75x - 250$ 10) _____

11) $f(x) = x^4 + 6x^3 + 7x^2 - 6x - 8$ 11) _____