

1. Perform the division. List the quotient and remainder.

(a) $\frac{3x^2-11x+5}{x-4}$

(b) $\frac{5x^5+3x^3+1}{x+2}$

(c) $\frac{9x^3+14x-6}{3x-2}$

2. What is the remainder of the division of $p(x)$ by $x - 3$ if:

(a) $p(x) = 3x^4 + 3x - 1$

(b) $p(x) = 7x^5 - 500x + 3$

(c) $p(x) = 4x^4 + x$

3. Find all roots.

(a) $x^3 - 2x^2 - 5x + 6$

(b) $x^4 + 2x^3 - 9x^2 - 2x + 8$