Work carefully and neatly. You must show all relevant work! You may receive no credit if there is insufficient work.

1. Perform the indicated operation: \((6x^3 + 7x^2 - 15x + 6) \div (2x - 1)\)

2. Sketch the graph of \(P(x) = (x + 4)^2(x - 2)(x - 5)^2\).

3. Let \(f(x) = 2x^3 + x^2 - 5x + 2\). Using the rational root test, list all possible rational roots of \(f(x)\).

4. Let \(P(x) = -x^3 - 2x^2 + 5x + 6\). Find all the real roots of \(P(x)\) and then sketch its graph.