

Express your answers in the form:  $p(x) = q(x) d(x) + r(x)$

1) Divide using long division.  $\frac{x^3 - 2x^2 + 4x + 6}{x^2 + x - 1}$

2) Divide using synthetic division.  $\frac{3x^5 - x^3 + 4x^2 - x + 2}{x + 2}$

3) Divide using synthetic division.  $\frac{x^3 + x^2 + x + 1}{x - 3}$

4) Divide using synthetic division.  $\frac{x^6 + 9}{x + 1}$

5) Divide using synthetic division.  $\frac{x^3+x^2+x+5}{x-2}$

6) Divide using synthetic division.  $\frac{5x^3-x+1}{x+3}$

7) Divide using synthetic division.  $\frac{x^3+x+1}{x-4.378}$  (Use a calculator for steps.)

8) Divide using synthetic division.  $\frac{x^4-x-6}{x-3.14 \times 10^{11}}$  (Use a calculator for steps.)