1. Find all the zeros of the polynomial \( p = x^6 + 2x^5 + x^4 + x^3 + 2x^2 + 2x + 1 \)

2. Include a graph of \( y = p(x) \) which clearly exhibits the x-intercepts.

3. Factor \( p \) completely into linear factors.

4. Let \( f \) be the rational function \( \frac{x^3 - 4x^2 + 5x - 2}{x^4 - 5x^2 + 4} \)
   a. What is the y-intercept of the graph of \( f \)?
   b. What are the x-intercepts of the graph of \( f \)?
   c. What are the vertical asymptotes of the graph of \( f \)?
   d. What is the horizontal asymptote of the graph of \( f \)?

5. Explain why \( f \) has only 2 vertical asymptotes even though the denominator of \( f \) has 4 zeros.

6. Compute \( \lim_{x \to r} f \) for \( r \) equal to each zero of the denominator of \( f \).

7. List all the values of \( x \) for which \( f \) is NOT DEFINED.

8. Include a graph of \( f \) which clearly shows all the relevant behavior of \( f \).