Honors Pre-calculus: Decomposition of a Rational Expression into a Sum of Partial Fractions

(for Solving Logistic Growth Differential Equations)

Write each rational expression as a sum of partial fractions:

1. \[
\frac{2x + 1}{x^2 - 5x + 4} =
\]

2. \[
\frac{7x + 6}{4x^2 + 9x - 9} =
\]
3. \[ \frac{x^2 + x + 6}{x^3 + 2x^2 - 5x - 6} \]

4. \[ \frac{3x - 1}{x^2 + 8x + 16} \]