5. [14 points]
   a. [6 points] Split the following expression into partial fractions with two or more terms. **Do not integrate these terms.** Please clearly show all of your work.
   \[
   \frac{5x - 4}{(x - 2)^2(x + 1)}
   \]

   **Answer:** 

   b. [8 points] Use the partial fraction decomposition
   \[
   \frac{4x - 2}{(3 - x)(x^2 + 1)} = \frac{1}{3 - x} + \frac{x - 1}{x^2 + 1}
   \]
   to evaluate the following **indefinite** integral. Please clearly show all of your work.
   \[
   \int \frac{4x - 2}{(3 - x)(x^2 + 1)} \, dx.
   \]

   **Answer:**