

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: _____