

6. [13 points]

- a. [6 points] Split the function $\frac{4-9x}{(x-2)^2(x+5)}$ into partial fractions with 2 or more terms. **Do not integrate these terms.** Please show all work to obtain your partial fractions.

- b. [7 points] Use the fact that $\frac{5x}{(x^2+1)(x-2)} = \frac{2}{x-2} + \frac{-2x+1}{x^2+1}$ to solve the indefinite integral

$$\int \frac{5x}{(x^2+1)(x-2)} dx.$$