6. [7 points] Use the partial fraction decomposition

$$\frac{x^2 + 13x + 10}{(7 - x)(x^2 + 1)} = \frac{3}{7 - x} + \frac{2x + 1}{x^2 + 1}$$

to evaluate the following indefinite integral, showing all of your work.

$$\int \frac{x^2 + 13x + 10}{(7 - x)(x^2 + 1)} \, dx$$

Answer: _____