

Worksheet 7.4

Full Name: \_\_\_\_\_ Score: \_\_\_\_\_

1. Use a partial fraction decomposition to evaluate each of the following indefinite integrals.

(a)  $\int \frac{8x + 17}{2x + 5} dx$

(b)  $\int \frac{1}{x^2 - 25} dx$

(c)  $\int \frac{-4x + 22}{x^2 - 6x + 8} dx$

(d)  $\int \frac{6x^3 - 3x^2 - 4x + 7}{2x^2 - x - 1} dx$

$$(e) \int \frac{-3x^2 + 18x - 18}{x^3 - 9x} dx$$

$$(f) \int \frac{6x^2 - 7x + 6}{x^3 + 3x^2} dx$$

(g)  $\int \frac{-x^2 + 4x + 4}{x^3 - 4x^2 + 4x} dx$

(h)  $\int \frac{x^2 - 5x - 8}{x^3 + 4x} dx$

(i)  $\int \frac{3x^2 - 10x + 15}{(x-1)(x^2 + 2x + 5)} dx$

**Hint:** Complete the square for  $x^2 + 2x + 5$