

Name:

Section: 7 8

1. Write the abstract partial fraction decomposition for the following rational functions.

(a)
$$\frac{x^3 + 9x - 18}{x^2(x - 2)(x + 2)^3(7x - 1)}$$

(b)
$$\frac{x^3 + 9x - 18}{(x^2 - 1)(x^2 + 1)}$$

(c)
$$\frac{x^3 + 9x - 18}{x^2(x^2 + 1)(x^2 + 2)^3}$$

2. Find the following integrals.

(a) Evaluate $\int \frac{x + 4}{x^2 + 5x + 6} dx$

(b) Evaluate $\int \frac{4x^2 + 3x + 2}{x^3 + 2x} dx$