Name: Section: 11   12   13

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

$$\frac{x^3 - 19x + 4}{x^3(x^2 + 1)^2(6x - 1)}$$

2. Evaluate $\displaystyle\int \frac{x^2 - 1}{x^2 + x - 12}\,dx$

3. Use the Trapezoidal Rule with $n = 4$ to approximate $\int_{-2}^{2} x^3 dx$.

4. Find an integer n that would guarantee Simpson's Rule S_n to be within 10^{-4} of $\int_{1}^{7} x^{5/2} dx$. You do not need to simplify your answer.