Math 001B Assignment 7.4   Name_____

DIRECTIONS   To receive full credit, you must provide complete legible solutions to the following problems in the space provided. Transfer all your answers to the space provided on the test paper.

1.   Expand the given fractions using partial fraction decomposition

a. $\dfrac{x}{x^2 - 4x - 5}$ Ans_____

b. $\dfrac{x+1}{x^3 - 8}$ Ans_____

c. $\dfrac{x+2}{x^4 - x^2}$ Ans_____

2.   Evaluate the integral.   Ans_____

$$\int \dfrac{ds}{s(s-1)^2}$$

3. Evaluate the integral   Ans_____

$$\int \frac{x+4}{x^2+2x+5}\,dx$$

4. Evaluate the integral   Ans_____

$$\int \frac{dx}{\sqrt{x+1}+x}$$

5. Find the volume of the resulting solid if the region under the curve over the interval is rotated about the axis.

$$y = \frac{7}{x^2+5x+6}, \quad 0 \le x \le 1, \text{ about the x-axis} \qquad \text{Ans}_____$$