



Prince Sultan University
Department of Mathematical Sciences
MATH 113 – second Examination
22 April 2009

Time allowed: 45 minutes
Maximum points: 36 points

Dr. Bahaa Eldin Abdalla

Name:

ID:

1. (7 points) Evaluate $\int_2^7 \frac{x}{\sqrt{x+2}} dx$. Show all steps. Do not use the calculator.

2. (7 points) Find the area of the region that is enclosed between the curves $y = x^2 + 1$ and $y = 3 - x$.

3. (7 points) Find the volume of the solid generated when the region enclosed by $y = \sqrt{x}$, $y = 4$, and $x = 0$ is revolved about the y -axis.

4. (8 points) Find the volume of the solid generated when the region R under $y = x^2$ over the interval $[0, 3]$ is revolved about the line $y = -2$.

5. (7 points) Find the area of the surface that is generated by revolving the portion of the curve $y = x^2$ between $x = 2$ and $x = 3$ about the y -axis.