Math 220 (section AD?) **Quiz 10** **Spring 2016**

Name _____

- You have 20 minutes
- No calculators
- Show sufficient work

1. (2 points) Precisely state *The Mean Value Theorem*.

2. (2 points) Evaluate the definite integral. Simplify your answer.

$$\int_4^{25} \frac{e^{\sqrt{x}}}{\sqrt{x}}\, dx$$

3. (2 points each) Evaluate the following integrals.

(a) $\displaystyle\int \frac{50x^9 \cos\left(x^{10}\right)}{\sin\left(x^{10}\right)}\, dx$

(b) $\displaystyle\int 40x\sqrt{2x+3}\, dx$

4. (2 points) Let $\mathbf{R}$ be the finite region bounded by $y = 2\ln x$, $y = 6$ and $x = 1$. In the following manner, set up but do not evaluate definite integrals which represent the area of the region $\mathbf{R}$.

   (a) Integrate with respect to x.

   (b) Integrate with respect to y. (The integrands in parts (a) and (b) should be different.)