

PRINT Your Name: _____

Quiz 1 — August 19, 2011 – Section 8 – 11:15 – 12:05

Remove everything from your desk except a pencil or pen.

Circle your answer. **Show your work.** Your work should be correct and coherent.

The quiz is worth 5 points.

Find $\int_1^2 x\sqrt{x-1}dx$.

Answer: Let $u = x - 1$. Then $du = dx$. When $x = 1$, then $u = 0$. When $x = 2$, then $u = 1$. The integral is equal to

$$\int_0^1 (u+1)\sqrt{u}du = \int_0^1 (u^{3/2} + u^{1/2})du = (2/5)u^{5/2} + (2/3)u^{3/2}\Big|_0^1 = (2/5) + (2/3) \\ = \boxed{16/15}.$$