PRINT Your Name:____________________

**Quiz 1 — August 29, 2012 – Section 10 – 11:15 – 12:05**

**Remove everything from your desk except this page and a pencil or pen.**
The solution will be posted soon after the quiz is given.

$\boxed{\text{Circle}}$ your answer. **Show your work. Check your answer.**
The quiz is worth 5 points.

Find $\int \frac{x}{\sqrt[4]{x+2}}dx$.

**Answer:** Let $u = x + 2$. Then $du = dx$. The integral is equal to

$$\int u - 2u^{1/4}du = \int u^{3/4} - 2u^{-1/4}du = 4/7u^{7/4} - 2(4/3)u^{3/4} + C$$

$$= \boxed{4/7(x+2)^{7/4} - 2(4/3)(x+2)^{3/4} + C.}$$

**Check:** The derivative of the proposed answer is

$$(x+2)^{3/4} - 2(x+2)^{-1/4} = (x+2)^{-1/4}((x+2)-2) = \frac{x}{\sqrt[4]{x+2}}. \checkmark$$