

Math 171 - Quiz 11

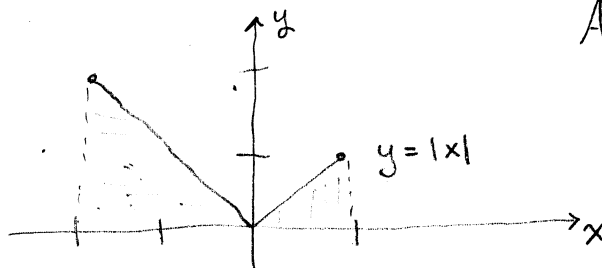
November 29, 2012

Name key

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (4 points) Use area to evaluate $\int_{-2}^1 |x| dx$.



$$\begin{aligned} \text{Area} &= \frac{1}{2}(2)(2) + \frac{1}{2}(1)(1) \\ &= 2\frac{1}{2} = \underline{\underline{\frac{5}{2}}} \end{aligned}$$

2. (6 points) Evaluate each definite integral.

$$\begin{aligned} \text{(a)} \int_0^{\pi/4} 2 \sec^2 x dx &= 2 \tan x \Big|_0^{\pi/4} = 2 \tan \frac{\pi}{4} - 2 \tan 0 \\ &= \underline{\underline{2}} \end{aligned}$$

$$\begin{aligned} \text{(b)} \int_1^4 (\sqrt{x} + 2) dx &= \int_1^4 (x^{1/2} + 2) dx = \frac{2}{3} x^{3/2} + 2x \Big|_1^4 \\ &= \left[\frac{2}{3}(4)^{3/2} + 8 \right] - \left(\frac{2}{3} + 2 \right) = \frac{14}{3} + 6 = \underline{\underline{\frac{32}{3}}} \end{aligned}$$