

Math 2423-010  
In-Class Quiz 2-10

Determine whether each statement is True or False:

---

PROBLEM 1.  $\int_{-2}^2 x^3 dx = \int_2^{-2} x^3 dx$

ANSWER: True, because

$$\int_{-2}^2 x^3 dx = \frac{x^4}{4} \Big|_{-2}^2 = \frac{2^4}{4} - \frac{(-2)^4}{4} = 4 - 4 = 0 \text{ and } \int_2^{-2} x^3 dx = \frac{x^4}{4} \Big|_2^{-2} = \frac{(-2)^4}{4} - \frac{2^4}{4} = 0$$

---

PROBLEM 2.  $\int_{-1}^4 x dx = 15/2$

ANSWER: True, because

$$\int_{-1}^4 x dx = \frac{x^2}{2} \Big|_{-1}^4 = \frac{4^2}{2} - \frac{(-1)^2}{2} = \frac{16}{2} - \frac{1}{2}$$

---

PROBLEM 3.  $\int_{-1}^4 x dt = 15/2$

ANSWER: False, because

$$\int_{-1}^4 x dt = xt \Big|_{-1}^4 = 4x - (-x) = 5x$$

---

PROBLEM 4.  $\int_{-1}^4 x dt = 5x$

ANSWER: True, see previous problem.

---