

Quiz #9

Math 1210, Fall 2004

Problem 1. (4 points) Evaluate the integrals:

$$(a) \int (5x^2 + 1)\sqrt{5x^3 + 3x - 2} \, dx =$$

$$(b) \int \frac{x(x+1)}{\sqrt[3]{x}} \, dx =$$

Problem 2. (2 points) Use Special Sum Formulas to find the sum

$$\sum_{i=1}^{10} 3i^2 + i + 2 =$$

Problem 3. (4 points) An object is moving along a coordinate line subject to the indicated acceleration

$$a = (1 + t)^{-4} \text{ cm/sec}^2$$

with the initial velocity $v_0 = 0$ cm/sec and directed distance $s_0 = 10$ cm.

Find both the velocity v and directed distance s after t seconds.