Quiz #10: Monday, Dec 5

Name: _____Solution Key_____   Recitation R02 (M)

Using the Fundamental Theorem of Calculus, find the value of $\int_1^2 3x^2 + 1\,dx$.

Solution: An antiderivative of $3x^2 + 1$ is $x^3 + x$. Then

$$\int_1^2 3x^2 + 1\,dx = \left. x^3 + x \right|_1^2 = (2^3 + 2) - (1^3 + 1) = 10 - 2 = 8.$$

Quiz #10: Monday, Dec 5

Name: _____Solution Key_____   Recitation R02 (M)

Using the Fundamental Theorem of Calculus, find the value of $\int_1^2 4t + 3t^2 \, dt$.

Solution: An antiderivative of $4t + 3t^2$ is $2t^2 + t^3$. Then

$$\int_1^2 4t + 3t^2 \, dt = \left. 2t^2 + t^3 \right|_1^2 = (2(2)^2 + 2^3) - (2(1)^2 + 1^3) = 16 - 3 = 13.$$

Quiz #10: Tuesday, Dec 6

Name: <u>   Solution Key   </u>   Recitation R04 (Tu)

Using the Fundamental Theorem of Calculus, find the value of $\int_1^2 3x^2 + 2\,dx$.

Solution: An antiderivative of $3x^2 + 2$ is $x^3 + 2x$. Then

$$\int_1^2 3x^2 + 2\,dx = \left. x^3 + 2x \right|_1^2 = (2^3 + 2(2)) - (1^3 + 2(1)) = 12 - 3 = 9.$$

Quiz #10: Tuesday, Dec 6

Name: _____ Solution Key _____   Recitation R04 (Tu)

Using the Fundamental Theorem of Calculus, find the value of $\int_1^2 8t + 3t^2 \, dt$.

Solution: An antiderivative of $8t + 3t^2$ is $4t^2 + t^3$. Then

$$\int_1^2 8t + 3t^2 \, dt = \left. 4t^2 + t^3 \right|_1^2 = (4(2)^2 + 2^3) - (4(1)^2 + 1^3) = 24 - 5 = 19.$$

Quiz #10: Wednesday, Dec 7

Name: _____Solution Key_____   Recitation R03 (W)

Using the Fundamental Theorem of Calculus, find the value of $\int_1^2 3x^2 + 5\,dx$.

Solution: An antiderivative of $3x^2 + 5$ is $x^3 + 5x$. Then

$$\int_1^2 3x^2 + 5\,dx = \left. x^3 + 5x \right|_1^2 = (2^3 + 5(2)) - (1^3 + 5(1)) = 18 - 6 = 12.$$

Quiz #10: Wednesday, Dec 7

Name: _____ Solution Key _____   Recitation R03 (W)

Using the Fundamental Theorem of Calculus, find the value of $\displaystyle\int_1^2 2t + 3t^2\,dt$.

Solution: An antiderivative of $2t + 3t^2$ is $t^2 + t^3$. Then

$$\int_1^2 2t + 3t^2\,dt = \left. t^2 + t^3\right|_1^2 = (2^2 + 2^3) - (1^2 + 1^3) = 12 - 2 = 10.$$