

CALCULUS BC WS CH.4

Name _____ Per. _____

1) $\int_{-4}^1 |x+2| dx =$

2) $\int x^2(x^3+6)^9 dx =$

3) $\int 2x\sqrt{5x-7} dx =$

4) $\int_0^1 \frac{x^3}{(4x^4-3)^4} dx =$

5) $\int \cos^7 t \cdot \sin t dt =$

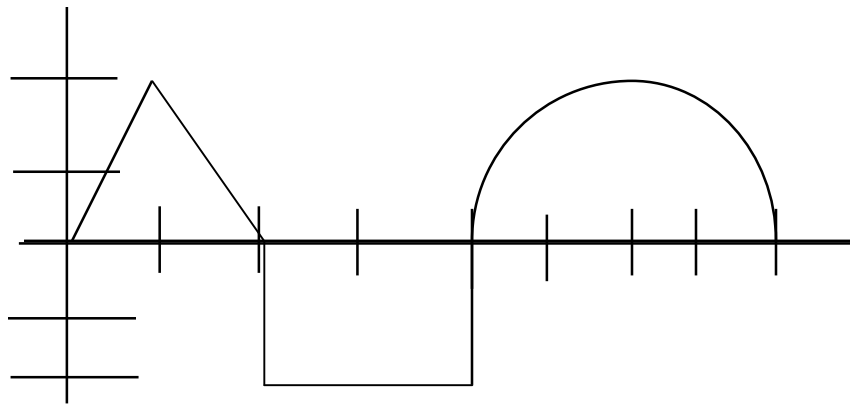
6) Find $\frac{d}{dx} \int_x^{x^2} \sqrt{t^3+2} dt =$

7) $\int (x^5 + 2x - 3x^{-5} - 9x^{6/7} - 8x^{-5/3}) dx =$

8) Find average value of $f(x) = 8x^3$ from $[1,4]$.

9) Find the area of the region between the graph of f and the x -axis on the given interval.

$$f(x) = \begin{cases} -x+1 & \text{for } x \leq 1 \\ x^2-1 & \text{for } x > 1 \end{cases} \quad [-1,2]$$



10) a) Find $\int_0^8 f(x) dx$

b) Find $\int_0^8 |f(x)| dx$

c) Find $\int_0^8 (f(x) + 5) dx$

d) Find $\int_2^6 f(x) dx$

e) Find $3 \int_8^4 f(x) dx$

f) Find $\int_0^4 f(x) dx$

11) To estimate the surface area of a pool, a surveyor takes several measurements. The measurements are taken every 4 feet for the 32 ft. long pool, where y represents the distance across the pool at each 4 ft. increment.

x	0	4	8	12	16	20	24	28	32
y	0	9	11	13	14	11	10	8	6

a) Estimate using Trapezoidal Rule

b) Estimate Avg. value using Trapezoidal Rule

c) Estimate using Right Endpoint

d) Estimate using Left Endpoint

e) Estimate using 4 Midpoint subdivisions