

CH.4 WS #1 CALCULUS AB

Name _____ Per. _____

1) $\int \left(x^7 + \frac{3}{x^2} \right) dx =$

2) $\int_8^{27} x^{-1/3} dx =$

3) $\int 10x^4(2x^5 + 1)^7 dx =$

4) $\int \frac{x^9}{(x^{10} - 8)^{61}} dx =$

5) $\int_0^1 2x\sqrt{-5x^2 + 9} dx =$

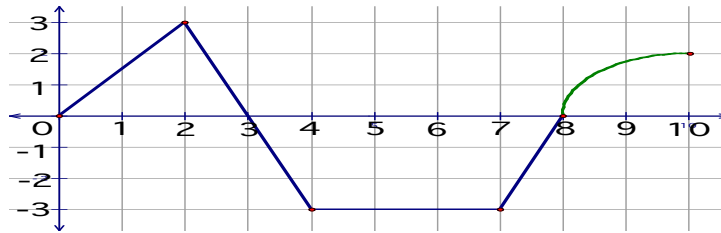
6) $\int \tan^7 t \cdot \sec^2 t dt =$

7) $\int 2x\sqrt{x-6} dx =$

8) $F(x) = \int_x^{x^3} \sqrt{t^5 - 2} dt$ Find $F'(x)$.

9) $\int_3^{10} |x-8| dx =$

10) Find avg. value of $f(x) = 9 - x^2$ from $[0, 2]$.



11) a) $\int_0^{10} f(x) dx =$

b) $\int_0^{10} |f(x)| dx =$

c) $\int_0^{10} (f(x) + 3) dx =$

d) $\int_7^2 f(x) dx =$

e) $6 \int_8^{10} f(x) dx =$

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

g) $\int_8^4 f(x) dx =$

h) Avg. value from $[0,3] =$

i) Avg. value from $[0,10] =$

12) To estimate the surface area of a pool, a surveyor takes several measurements. The measurements are taken every 10 feet for the 80 ft. long pond, where y represents the distance across the pool at each 10 ft. increment.

x	0	10	20	30	40	50	60	70	80
y	10	14	18	16	11	12	18	13	15

a) Estimate using Trapezoidal Rule

b) Estimate Avg. value using Trapezoidal Rule

c) Estimate using Right Endpoint

d) Estimate using 4 Midpoint subdivisions

13) To estimate the area of a plot of land, I took measurements as shown below right. The measurements are taken where y represents the distance across the land in feet at each increment. Approximate the area of the land.

a) Estimate using Left Endpoint

x	0	4	6	11
y	8	14	10	9