PreCalculus Unit 12 – Test A *of* C – Integral Calculus

1. Explain how to estimate the area *under* a curve for (+2, $-x^2$) using rectangles

curve include steps 1,2,3…, n. Use words only… Use no number to explain…

2. Estimate the area under F(x) = +x2 +2 from X= +1 to X=+3 using rectangles above

curve X axis include (2) estimates. Rectangles of width W=1 and W=1/2…

3. Determine the Indefinite Integral for: F(x) = x^2 – x + 2 Show all work & Check…

4. Determine the Indefinite Integral for: F(x) = $\sqrt{x}$ + 4/x^2 Show all work & Check…

5. Summarize Fundamental Theorem of Calculus include drawing, *math* statement & *your* re-statement.

6. Determine the area bounded by F(x) = +4x – x^2 and *above* the X axis. Show all work…

7. Determine *total* area bounded by F(x) = +x^3 and X axis between X= –2 & X= +2 Show all work…

8. If A = 6T and V=3 at T=1 and S=2 at T=0 *then* determine Displacement or (S) formula & Check!

9. Explain Long & Short Mathematical statements showing how *Area* is determined by rectangles.

10. Determine Indefinite Integral by change of variable: F(x) = (–2x) (x^2 –3x)^5 Show all work & Check…
u=___ du=___ n=___

11. Determine Indefinite Integral by change of variable: F(x) = (3x^2) (x^3 +1)^7 Show all work & Check…
u=___ du=___ n=___

12. Determine area between the graphs x = +y^2 & x = +1 using (*Dy*) strips & Show all work & Check…

13. Summarize Integration & Differentiation include Definitions, Results, Informal & Formal Names…

14. Determine Area bounded by F(X) = +4 – x^2 & Second Quadrant & Show all work & Check…

15. Determine Volume generated by revolving Y=+3 about X axis between X=+2 & X=+5. Show work!

16. Show drawing of V = Π R^2 H revolving about X axis between X=+2 & X=+5. Show work & steps!