

Honors Brief Calculus
Unit 14 1st Groupwork

Name: _____

Evaluate the indefinite integral.

#1. $\int 4\sqrt[3]{x^5} dx$

#2. $\int \frac{15 dx}{x^5}$

#3. $\int \frac{x^{\frac{3}{2}} - 2x}{\sqrt{x}} dx$

#4. $\int \frac{e^x + e^{-x}}{2} dx$

#5. $\int \frac{3x^7 - 4x}{x^2} dx$

Use substitution to evaluate the following.

#6. $\int \frac{dx}{2x+1}$

#7. $\int x\sqrt{x^2+1} dx$

#8. $\int (x^3 + 2)^6 x^2 dx$

#9. $\int e^{2x-3} dx$

#10. $\int \frac{(x+1) dx}{(x^2 + 2x + 3)^2}$

#11. Approximate $\int_0^8 x^2 dx$ by dividing the interval $[0, 8]$ into four subintervals of equal length and picking u_i as the midpoint of each subinterval.

#12. Evaluate $\int_1^2 3x(x^2 - 1) dx$

#13. Evaluate $\int_{-1}^1 (x+1)^3 dx$