

AP Calculus  
6.2 Worksheet Day 1

All work must be shown in this course for full credit. Unsupported answers may receive NO credit.

*Indefinite Integrals*

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

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

3.  $\int \frac{e^x}{1+2e^x} dx$

4.  $\int \sec^2(2x) dx$

5.  $\int \sec^2(3x)e^{\tan(3x)} dx$

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

7.  $\int e^x(2+e^x)^{1/2} dx$

8.  $\int x^2 \cos(x^3) dx$

9.  $\int \frac{\sec^2 x}{\sqrt{\tan x}} dx$

10.  $\int \frac{\tan^{-1} x}{1+x^2} dx$

11.  $\int \csc^2(3x+5) dx$

12.  $\int \frac{x+1}{(x^2+2x+7)^3} dx$

$$13. \int \frac{x^2 - 4}{x} dx$$

$$14. \int \frac{x^2 - 3x + 2}{x + 1} dx$$

$$15. \int \frac{x^4 + x - 4}{x^2 + 2} dx$$

$$16. \int \frac{\cos t}{1 + \sin t} dt$$

$$17. \int e^{5x} dx$$

$$18. \int e^x \sqrt{1 - e^x} dx$$

$$19. \int_0^{\sqrt{6}} x e^{-\frac{x^2}{4}} dx$$

$$20. \int_0^4 \frac{5}{3x + 1} dx$$