

## Basic Integration Techniques

- A. Substitution
- B.  $\ln$
- C.  $e^x$
- D. Complete the Square
- E. Long Division
- F. Inverse Trig
- G. Separate Integrals
- H. Basic Integration (nothing special)

1.  $\int (3x-2)^4 dx$

2.  $\int \frac{2}{(2x-1)^2 + 4} dx$

3.  $\int 3xe^{x^2} dx$

4.  $\int \frac{5}{(x-4)^5} dx$

5.  $\int \left(x - \frac{3}{(2x+3)^2}\right) dx$

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

7.  $\int (\sec 4x) dx$

8.  $\int \frac{\sin x}{\sqrt{\cos x}} dx$

9.  $\int (\tan x)[\ln(\cos x)] dx$

10.  $\int \frac{1 + \cos x}{\sin x} dx$

11.  $\int \frac{4}{4x^2 + 4x + 65} dx$

12.  $\int (1 + e^x)^2 dx$