

## *Integration Review*

Find the indefinite or evaluate the definite integral:

1.  $\int e^{-2x} dx$

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

3.  $\int \frac{1}{\sqrt{8 - 6x - x^2}} dx$

4.  $\int \frac{e^x}{e^{2x} + 5} dx$

5.  $\int_{-3}^0 \frac{x}{\sqrt{1-x}} dx$  Hint: Use a “formal substitution” or a “change of variable”

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

7.  $\int_{-4}^0 \sqrt{16 - x^2} dx$  Hint: Use geometry and not the FTC.

8.  $\int \sec 2y dy$

9.  $\int_0^{\pi/2} (\sin x - \cos x) dx$

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