

**Math 142 Sec: 007/008: Exam 1 Test Review**

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

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

3.  $\int \frac{(1-x^2)^{3/2}}{x^6} dx$

4.  $\int 8 \cos^3(2\theta) \sin(2\theta) d\theta$

5.  $\int \tan x \sec^3 x dx$

6.  $\int \frac{x^3+x^2+2x+1}{x^4+2x^2+1} dx$

7.  $\int \frac{dx}{(x-2)\sqrt{x^2-4x+3}}$

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

9.  $\int_0^{\pi/2} \sin^2 x dx$

10.  $\int_1^{\infty} \frac{1}{(3x+1)^4} dx$

11.  $\int_0^4 \frac{x}{x+9} dx$