

Homework 1 - Math 142**Name:** _____

Bring your solutions to these problems to class on Friday. You can use them during the quiz.

1. Find $\int \sqrt{2+x} \, dx$.

2. Find $\int \cos(3x) \, dx$.

3. Find $\int \frac{1+\sqrt{x}}{\sqrt{x}} \, dx$.

4. Find $\int x^2 (1+x^3)^{12} \, dx$.

5. Find $\int (1+\tan x)^3 \sec^2 x \, dx$.

6. Find $\int \frac{1}{(4y)^{5/2}} dy$.

7. Find $\int_0^1 \frac{2x}{(1+x^2)^8} dx$.

8. Find $\int_0^{\pi/5} \sin(5\theta) d\theta$.

9. Find $\int_0^{\pi} (1 + \cos x)^5 \sin x dx$.

10. Find $\int_{\pi^2/4}^{\pi^2} \frac{\cos(\sqrt{x})}{\sqrt{x}} dx$.
