

**Homework 1 - Math 142**

Name: \_\_\_\_\_

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

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

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

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

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

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

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

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

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

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

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

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