Calc II Review

Name_____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Evaluate the integral.

1) $\int x^3 \cos 7x \, dx$ 1) _____

2) $\int e^{7x} \cos 4x \, dx$ 2) _____

3) $\int_0^2 x^2 \ln 4x \, dx$ 3) _____

Solve the problem.

4) Find the volume of the solid generated by revolving the region in the first quadrant bounded by $y = e^x$ and the x-axis, from $x = 0$ to $x = \ln 7$, about the y-axis. 4) _____

5) $\int_0^{\pi/8} (1 + e^{\tan 2x}) \sec^2 2x \, dx$ 5) _____

6) $\int_1^4 \frac{4 - \sqrt{x}}{\sqrt{x}} \, dx$ 6) _____

7) $\int \frac{\sin t}{(3 + \cos t)^4} \, dt$ 7) _____

8) $\int \frac{12 \tan^2 x \sec^2 x}{(3 + \tan^3 x)^2} \, dx$ 8) _____

9) $\int 2 \cos^3 4x \, dx$ 9) _____

10) $\int \cos^2 \theta \sin 2\theta \, d\theta$ 10) _____

11) $\int \sec^3 7x \, dx$ 11) _____

12) $\int \tan^4 3t \, dt$ 12) _____

13) $\int_0^{\pi} \sqrt{1 - \cos^2 x}\, dx$ 13) _____

14) $\int \frac{1}{t^2\sqrt{3 - t^2}}\, dt$ 14) _____

15) $\int \frac{dx}{x^2\sqrt{x^2 - 25}}$, $x > 5$ 15) _____

16) $\int \frac{dx}{(x^2 + 16)^{3/2}}$ 16) _____