Name: _____ **Class (circle): Berman/Sus Jurkowski**

- There are 12 points possible on this proficiency: one point per problem with no partial credit.
- A passing score is 10/12.
- You have 60 minutes to complete this proficiency.
- No aids (book, calculator, etc.) are permitted.
- Be sure to include constants of integration where appropriate.
- You do **not** need to simplify your expressions.
- Box your final answer.

Evaluate the integrals.

1. $\int \left(5\sqrt{t} - \pi^3\right)\, dt$

2. $\int \left(\frac{3+2x-x^3}{x^2}\right)\, dx$

3. $\int 3\theta^3 \cos\left(\theta^4\right)\, d\theta$

4. $\displaystyle\int_1^4 \left(t^2 - \frac{4}{\sqrt{t}} + 3\right)\, dt$

5. $\displaystyle\int \sec^2(2x)(\tan(2x))^4\, dx$

6. $\displaystyle\int \frac{\sin\left(1/t\right)}{t^2}\, dt$

7. $\displaystyle\int x\sqrt{x-5}\,dx$

8. $\displaystyle\int \left(\frac{1}{3\sqrt{1-x^2}}+e^x\right)\,dx$

9. $\displaystyle\int_1^e \frac{(\ln x)^2}{5x}\,dx$

10. $\int (y+2)(y^2-2y+4)\ dy$

11. $\int \left(\frac{1}{x+3} - \frac{\sec(x)\tan(x)}{3}\right)\ dx$

12. $\int \left(\cos(5-2t) + e^{-t}\right)\ dt$