Name: ───────────────────────────────────   ──────── / 12

- There are 12 points possible on this proficiency: **One point per problem. No partial credit.**

- A passing score is 10/12.

- You have 30 minutes to complete this proficiency.

- No aids (book, calculator, etc.) are permitted.

- You do **not** need to simplify your expressions.

- Be sure to include constants of integration when appropriate.

- Circle your final answer.

Compute the following integrals.

1. $\displaystyle\int_1^2 \frac{x^4+1}{x^3}\, dx$

2. $\displaystyle\int \frac{2-3\ln t}{t}\, dt$

3. $\displaystyle\int_\pi^{2\pi} (\cos\theta - 4)\, d\theta$

4. $\displaystyle\int z\sqrt{z+2}\,dz$

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

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

7. $\int t \cos(5 - 3t^2) \, dt$

8. $\int (\sin\theta) e^{\cos\theta} \, d\theta$

9. $\int_{-1}^{1} (x+3)(x-4) \, dx$

10. $\displaystyle\int \frac{t^2}{t^3-9}\,dt$

11. $\displaystyle\int \sqrt[3]{x^4} - \sqrt[3]{5}\,dx$

12. $\displaystyle\int \left(3e^w - \frac{1}{w^5}\right)\,dw$