

Name: _____

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Instructor: Bueler | Jurkowski | Maxwell

- There are 12 points possible on this proficiency: one point per problem with no partial credit.
- You have 30 minutes to complete this proficiency.
- No aids (book, calculator, etc.) are permitted.
- You do **not** need to simplify your expressions.
- For at least one problem you must indicate correct use of a constant of integration.
- Circle your final answer.

1. [12 points] Compute the following definite/indefinite integrals.

a. $\int \sin(\pi x) - x^3 dx$

b. $\int \sqrt{2}x + \sec(x) \tan(x) + e^{-x} dx$

c. $\int_0^3 \cos(t) + e^t dt$

d. $\int \frac{x^3 - 5}{x^2} dx$

e. $\int \frac{1}{(2v - 5)^3} dv$

f. $\int \sin(6 + x^3)x^2 dx$

g. $\int \cos(t)e^{\sin(t)} dt$

h. $\int \frac{\sqrt{2}}{1+x^2} dx$

i. $\int \frac{\sec^2(x)}{7+\tan(x)} dx$

j. $\int w^3(\sqrt{w}-1) dw$

k. $\int x\sqrt{x-3} dx$

l. $\int \frac{1}{x\ln(x)} dx$