

Quiz 3: Integration – Math 20A – Lecture C

December 2, 2015 — Instructor: S. Buss

Name:

PID:

Please turn over for the quiz.

1. Compute the indefinite integral:

$$\int \left(x^2 + \frac{3}{x^2} + \frac{1}{x}\right) dx =$$

2. Compute the definite integral:

$$\int_{-1}^1 (4 + 4e^{2t}) dt =$$

3. Mark as true or false. (To be “true”, it must *always* be true. If needed, you should assume that f , f' , f'' and g are defined and continuous on \mathbb{R} .)

_____ a. $\int (f(x) - g(x)) dx = \int f(x) dx - \int g(x) dx$.

_____ b. $\int_a^b f(x) dx + \int_b^a f(x) dx = 0$.

_____ c. $\int f'(t) dt = f(t) + c$.

_____ d. $\int f''(t) dt = f'(t) + c$.

_____ e. $\int \ln x dx = x \ln x - x + c$, on the domain $x \in (0, +\infty)$.