

Name: _____

Quiz #1: *Derivatives and integrals reminder*

In class. 25 minutes. No textbook or notes or calculator.

For this “reminder” quiz, which recalls Calculus I proficiency skills, you will get the full 30 points if you attempt all questions. Your score will be only used for advising.

For each function below, find the derivative and simplify. (*Simplification is not unique.*)

1. (3 pts) $g(x) = 2x^{3.2} - \sqrt{3x} + e^4$

2. (3 pts) $F(\theta) = 2\theta \tan(\theta)$

3. (3 pts)

$$f(x) = \frac{e^x}{x^2 - x + 1}$$

4. (3 pts) $y = 15x^{4/3}(x + 2)$

5. (3 pts) $h(x) = x(\ln x)(\cos x)$

Find the definite or indefinite integral.

6. (3 pts)

$$\int_0^1 (1 - 8v^3 + 16v^7) dv =$$

7. (3 pts)

$$\int \sec \theta (\tan \theta + \sec \theta) d\theta =$$

8. (3 pts)

$$\int \frac{x^4}{2 + x^5} dx =$$

9. (3 pts)

$$\int_{-3}^0 \sin(\pi x) dx =$$

10. (3 pts)

$$\int \frac{\ln x}{x} dx =$$