Math 203 Fall 2018 Professor MG
Classwork 8 Name: _____

Show all work and circle/box your final answer. All answers must be simplified unless stated otherwise.

1. (*0 points*) Evaluate the following indefinite integrals:

(a) $\int \left(4x^7 - 2x^2 + \frac{12}{x^4}\right)\, dx$

(b) $\int \left(\frac{9}{x} - 3e^{4x}\right)\, dx$

(c) $\int (x^3 + 4x^2 + 3)dx$

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

(e) $\int \left(\frac{2x^5 - x + 3}{x^2}\right)dx$

2. (*0 points*) Use mid-points to approximate the area above the x-axis and under $x^2 + 6$ from $x = 0$ to $x = 6$ using 3 rectangles.

3. (*0 points*) Set up but do not evaluate the calculation needed to estimate the area under the curve $f(x) = 1 - x^2$ from $x = 0$ to $x = 1$ using 4 rectangles and

(a) Left endpoints

(b) Right endpoints

(c) Midpoints

4. (*0 points*) Evaluate the following definite integrals:

(a) $\int_0^2 5x\, dx$

(b) $\int_0^2 (2t - 3)\, dt$

(c) $\int_0^1 (x^2 + \sqrt{x})\, dx$

(d) $\int_{-1}^1 (r + 1)^2\, dr$

(e) $\int_{\sqrt{2}}^1 \left(\frac{u^7}{2} - \frac{1}{u^5}\right)\, du$