Math 203 Fall 2018 Professor MG
Classwork 9 Name: _____

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

1. (*0 points*) Find the area between the following two curves:

(a) $y = 0$ and $y = 3(x^3 - x)$ from $x = -1$ to $x = 1$

(b) $y = x^2$ and $y = x^3$ from $x = -2$ to $x = 3$

2. (*0 points*) Drilling of an oil well has a fixed cost of \$10,000 and a marginal cost of $1000 + 50x$ dollars per foot where x is the depth of the well in feet. Find the cost of drilling x feet.

3. (*0 points*) An investment grows at an exponential rate of $R(t) = 700e^{0.07t} + 1000$, where t is in years and $R(t)$ is in dollars per year. Approximate the net increase in the value of the investment after the first 10 years (i.e. as t varies from 0 to 10).

4. (*0 points*) Find the consumers' surplus for $p(x) = 3 - \dfrac{x}{10}$ at the sales level of $x = 20$.

5. (*0 points*) Suppose that money is deposited daily in a savings account at the annual rate of \$2000. If the account pays 6% interest compounded continuously, approximately how much will be in the account after 2 years.