

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

- (1) 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.
- (2) 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.
- (3) Find the consumers' surplus for $p(x) = 3 - \frac{x}{10}$ at the sales level of $x = 20$.
- (4) 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.