Math 162
Quiz 9

Show all work in a neat and organized fashion. Clearly indicate your answers.
10 points possible.

1. (4 pts.) The number of live births to U.S. women 45 years and older between 1950 and 1985 can be modeled by the equation

$$B(x) = 0.431x^3 - 88.903x^2 + 5868.697x - 119{,}801.648 \text{ births}$$

where $x = 50$ in 1950, $x = 60$ in 1960, etc.

(a) Was the number of live births rising or falling in 1952? in 1975?

(b) How rapidly was the number of live births rising or falling in 1952 and in 1975?

2. Give the derivative formula for each function.

(a) (2 pts.) $f(x) = (6.9x + 12.5)^7$

(c) (2 pts.) $g(x) = \dfrac{8}{\sqrt{x^3 + x}}$

(c) (2 pts.) $g(x) = 5e^{(x^4 - x^2)}$