1. (2 points) This morning, Eileen has invested $800 in a bank account which earns 7.5\% interest compounded continuously.

(a) To the nearest penny, how much money will she have in her account 9 years from now?

(b) How long will it take for the balance in her account to reach $2500? Your answer should be correctly rounded off to one place after the decimal point.
2. (3 points) If a substance has a half-life of 15 days, then how long does it take until only 8% of that substance remains? Your answer should be correctly rounded off to one place after the decimal point.
3. (3 points) An oil spill spread out in a circle around the point where an oil tanker was ruptured at 7:00 a.m. Suppose that \( t \) minutes later the radius of the oil spill was \( 80\sqrt{t} \) meters. At 8:00 a.m., how quickly was the radius of the oil spill increasing? Your answer should be correctly rounded off to two places after the decimal point.
4. (2 points) The graph of $f(x)$ is shown below.

Circle the graph of $f'(x)$, given that it is one of the 6 choices below.