The Fidelity Massachusetts Aggressive Growth 529 fund has a ten year average annual rate of return of $3.66 \%$.
Treat this rate of return as if it were continuous over the ten year period.

1. If you put $\$ 20,000$ in the fund nine years ago, how much would you have in the fund now?
2. If you want to have $\$ 240,000$ in the account now, how much should you have put in nine years ago?
3. Suppose that you now have $\$ 20,000$ to invest, and you want $\$ 240,000$ in nine years. What average rate of return would you need the fund to meet?
