The Fidelity Diversified International (FDIVX) mutual fund has a five year average rate of return of $14.37 \%$.
Treat this rate of return as if it were continuous over the five year period.

1. If you put $\$ 10,000$ in the fund five years ago, how much would you have in the fund now?
2. If you want to have $\$ 50,000$ in the account now, how much should you have put in five years ago?
3. Suppose that you now have $\$ 20,000$ to invest, and you want $\$ 60,000$ in five years. What average rate of return would you need the fund to meet?
