

## Solve:

- 1) At 23% interest per year compounded continuously, how long will it take for an initial investment of \$300 to become \$700?
- 2) If \$300 is borrowed at 10% interest, find the amount due at the end of 4 years if the interest is compounded continuously.
- 3) A bacteria culture initially contains 100 members and grows at a rate proportional to its size. One month later, it contains 700 members. Find the number of bacteria after 2 months.
- 4) The half life of Roentgenium is 10 minutes. We began with a 1100 mg sample, and now we have a 100 mg sample. Find the amount of time that has past.
- 5) The half life of Seaborgium is 1.94 hours. Find a formula for the amount of Seaborgium left after  $t$  hours if we started with 100 mg.
- 6) The half life of Berkelium is 1379 years. If we start with 300 mg, find the amount that will be left after 5 years.
- 7) The half life of Darmstadtium is 4 minutes. We began with a 1100 mg sample, and now we have a 400 mg sample. Find the amount of time that has past.