5.1 Compound Interest

To calculate any component of compound interest:
1. APPS and choose 1: Finance (OR TI-83 only, choose simply Finance)
2. Choose 1: TVM Solver
3. Enter the known values.
4. Set PMT = END (make payments at the end of the cycle)
5. Place the cursor on the unknown value.
6. SOLVE: Alpha and then Enter

Always 5 of these 6 values are known. Solve for the missing value.
N = number of compounding periods
I% = interest rate as a %
PV = present value
PMT = payment amount
FV = future value
P/Y = C/Y
  o P/Y = payments per year
  o C/Y = compound periods per year
PMT: END  BEGIN when payments occur during the cycle. We always use END.

Different Compounding Periods:
Use the following to determine the correct value of N in the TVM Solver: N = mt.

<table>
<thead>
<tr>
<th>Compounding</th>
<th>m</th>
</tr>
</thead>
<tbody>
<tr>
<td>annually:</td>
<td>1</td>
</tr>
<tr>
<td>semi-annually:</td>
<td>2</td>
</tr>
<tr>
<td>quarterly:</td>
<td>4</td>
</tr>
<tr>
<td>monthly:</td>
<td>12</td>
</tr>
<tr>
<td>weekly:</td>
<td>52</td>
</tr>
<tr>
<td>daily:</td>
<td>365</td>
</tr>
</tbody>
</table>

To calculate the effective rate:
1. Finance
2. Choose C: Eff(
   Usage Eff(I percent interest, m compounds per year)
   For example: Eff(8, 365) gives the effective rate for 8% annual interest compounded daily.
3. Press Enter.

5.2 Annuities
5.3 Amortization and Sinking Funds

To do a line of this in the calculator: (Really, this is best done with Excel)
1. Use the TVM Solver to calculate the payments.
2. Change N to the number of payments remaining on the loan.
3. Solve for PV. This is what you still owe the bank (outstanding principal).
4. Calculate equity = value of item – amount owed