Math 1030
Taking Control of
Your Finances
Take Control of Your Finances

1. Know your bank balance.
2. Know what you spend.
3. Don't impulse buy.
4. Make a budget.

EX 1: Vern drinks three 6-packs of beer each week at a cost of $7.00 each and spends $700 per year on his textbooks. His beer expenses are what percent of his textbook expenses?

\begin{align*}
\text{Beer costs:} & \quad 3(7)(52) = \$1092 \quad \text{(per year)} \\
\text{Textbooks:} & \quad \$700 \\
\text{1092} & = x \cdot (700) \\
1.56 & = x \\
\rightarrow \text{Beer costs are 156\% of textbook costs each year}
\end{align*}
Master Budget Basics

Four-Step Budget:
1. List income.
2. List expenses.
4. Make adjustments.

EX 2: Determine the cash flow for this person. Assume that salaries and wages are after taxes.

**Income:**
- Salary: $32,000/year
- Pottery sales: $200/month

**Expenses:**
- House Pmt: $700/mo
- Groceries: $150/wk
- Home exp: $450/mo
- Health ins.: $150/mo
- Car ins.: $500 semiannually
- Donations: $600/year
- Misc: $800/mo

\[
\text{total income: } 32000 + 12(200) = 34,400
\]

\[
\begin{align*}
\text{total expenses: } & 700(12) + 150(52) + 450(12) \\
& + 150(12) + 500(2) \\
& + 600 + 800(12) \\
& = 34,600
\end{align*}
\]

\[
\text{cash flow: } \text{income} - \text{expenses} = 34,400 - 34,600 = -200
\]
EX 3: You currently drive 300 miles per week in a car that gets 15 mpg. You are considering buying a fuel-efficient car for $12,000 (after trade-in) that gets 50 mpg. Insurance premiums are $800 for the new car and $600 for the old one. You anticipate spending $1200 per year on repairs for the old car and having no repairs on the new one. Assume gas costs $3.50 per gallon. Over a five-year period, what do you gain/lose by getting the new car?

<table>
<thead>
<tr>
<th></th>
<th>Old Car</th>
<th>New Car</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Insurance</strong></td>
<td>$600</td>
<td>$800</td>
</tr>
<tr>
<td><strong>Repairs</strong></td>
<td>$1200</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Gas</strong></td>
<td>$3640/yr</td>
<td>$1092/yr</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$27,200</td>
<td>$21,460</td>
</tr>
</tbody>
</table>

\[
\begin{align*}
\text{Old car:} & \quad 300 \text{ mi} \text{ wk} \times \left( \frac{1 \text{ gal}}{15 \text{ mi}} \right) \times \left( \frac{4 \text{ gal}}{1 \text{ gal}} \right) \times \left( \frac{52 \text{ wk}}{1 \text{ yr}} \right) = \$3640/\text{yr gas} \\
\text{New car:} & \quad 300 \text{ mi} \text{ wk} \times \left( \frac{1 \text{ gal}}{50 \text{ mi}} \right) \times \left( \frac{4 \text{ gal}}{1 \text{ gal}} \right) \times \left( \frac{52 \text{ wk}}{1 \text{ yr}} \right) = \$1092/\text{yr gas}
\end{align*}
\]

⇒ over 5 years, the new car will save $27,200 - $21,460 = $5,740.
The table above shows median annual earnings (in 2011) for women and men with various levels of education. Assuming the difference shown remains constant over a 40-year career, approximately how much less does a woman with a bachelor's degree earn than a woman with a professional degree?

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\text{difference (annually)} = 80,718 - 49,108 = 31,610 \\
40(31610) = 1,264,400
\]