1. Chuck wants to start a leaf clearing business. He spends $560 on a leaf blower and plans to charge $5.25 an hour.
   a. Complete the table below.

<table>
<thead>
<tr>
<th>Hours</th>
<th>Calculation</th>
<th>Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   b. How many hours will Chuck have to work if he wants a profit of $280?

2. The equation $C = 2.08S + 1408$ represents the cost, $C$, of making stockings, $S$.
   a. How much will it cost to make 100,000 stockings?

   b. How many stockings do they have to make if the cost is $125,000?
3. Two companies offer you very similar jobs. Company A pays 9% commission on your sales plus $12,000 a year. Company B pays 12% commission on your sales.

a. Complete the table below.

<table>
<thead>
<tr>
<th>Sales</th>
<th>Calculation</th>
<th>Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>200,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>500,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>s</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Company B

<table>
<thead>
<tr>
<th>Sales</th>
<th>Calculation</th>
<th>Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>200,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>500,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>s</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. How much do you have to sell to earn the same amount in wages?
4. Von Newman car rental charges $26.55 per day and 15¢ a mile after the first 30 miles.
   a. Create a table and find the formula for the cost of renting a car.
   b. If it costs $31.35 to rent the car, how far did you drive?

5. Professor Breeze computes his grades as follows:
   40% for the average of 4 tests
   25% for the average of homework assignments
   35% for the final exam
   a. Find Carla’s average if she has a 78 test average, 81 homework average and a 71 final exam score.
   b. What does Carol have to get on her final exam if she has a 78 test average, a 86 homework average, and she wants an 80 for the grade of the course?
6. The bookstore is having a 15% off sale.

a. Complete the table below.

<table>
<thead>
<tr>
<th>Cost</th>
<th>Calculation</th>
<th>Sales Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. If an item had a sales price of $21.95, what was the original cost of the item?

7. Describe each step.

\[
3x + 2(4x-1) = 4x - 3 \quad \text{Step} \\
3x + 8x - 2 = 4x - 3 \\
11x - 2 = 4x - 3 \\
11x - 2 + 2 = 4x - 3 + 2 \\
11x = 4x - 1 \\
11x - 4x = 4x - 4x - 1 \\
7x = -1 \\
\frac{7x}{7} = \frac{-1}{7} \\
x = -0.1429
\]
8. Simplify the algebraic expression.
   a. $7 - 5x - 8 - 2x$  
   b. $3 - 4(5x - 2)$

9. Solve each equation.
   a. $7x + 6 = -21$
   b. $4x - 8 = 9 - 2x$
   c. $6(3-5x) = 112 + x$
   d. $\frac{5x}{3} = 25$

10. Solve for $Y$

11. Find the mistake.

   $6X + 2Y = 8$

   $4(2x-5) = 3x + 7$
   $8x - 20 = 3x + 7$
   $8x - 20 + 20 = 3x + 7 + 20$
   $8x = 3x + 27$
   $8x + 3x = 3x + 3x + 27$
   $11x = 27$
   $\frac{11x}{11} = \frac{27}{11}$
   $x = 2.45$