Problem 1: The accounting records of Roland Manufacturing Company include the following information:

\[
\begin{array}{l|l|l}
 & \text{Jan 1} & \text{Dec 31} \\
\hline
\text{Work in process inventory} & $50,000 & $70,000 \\
\text{Finished goods inventory} & 160,000 & 120,000 \\
\text{Direct materials used} & 350,000 & \\
\text{Direct labor} & 220,000 & \\
\text{Selling expenses} & 125,000 & \\
\end{array}
\]

Manufacturing overhead is applied at a rate of 150% of direct labor cost.

Instructions
Answer the following questions:
1. What is the total of the debits to Work in Process Inventory during the year?
2. What is the amount transferred to Finished Goods Inventory during the year?
3. What is the cost of goods sold?

\[
\begin{array}{l}
\text{1.} \\
\text{Total Debits} \\
\end{array}
\]

\[
\begin{array}{l}
\text{(2) WORK IN PROCESS INVENTORY} \\
\text{Beginning Balance} & \text{Transferred to Finished Goods} \\
\text{Transferred from (1)} & \\
\text{Balance} & \\
\end{array}
\]

\[
\begin{array}{l}
\text{(3) FINISHED GOODS INVENTORY} \\
\text{Beginning Balance} & \text{Cost of Goods Sold} \\
\text{From WIP (2)} & \\
\text{Balance} & \\
\end{array}
\]
**Problem 2:** Vannoy Manufacturing Company makes specialty tools. In January, Vannoy incurs manufacturing costs of $10,000,000 for direct materials, direct labor, and overhead. 25% of the total costs represents overhead applied. The overhead rate is $1 for every $2 of direct labor costs incurred. Inventory balances were:

<table>
<thead>
<tr>
<th></th>
<th>Jan. 1</th>
<th>Jan. 31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw materials</td>
<td>$400,000</td>
<td>$500,000</td>
</tr>
<tr>
<td>Work in process</td>
<td>600,000</td>
<td>800,000</td>
</tr>
<tr>
<td>Finished goods</td>
<td>400,000</td>
<td>200,000</td>
</tr>
</tbody>
</table>

At the end of January, there was $1,000 of overapplied overhead.

**Instructions**

(a) Determine the cost of raw materials purchased in January.

(b) Prepare a cost of goods manufactured schedule for January 2008.

(c) Compute the cost of goods sold for January.

---

(a) Overhead applied = 
Direct labor used = 
Direct materials used = 
Ending raw materials inventory = 
Direct materials used = 
Less: Beginning raw materials inventory = 
Raw materials purchases = 

(b) 

**VANNOY MANUFACTURING COMPANY**
Cost of Goods Manufactured Schedule
For the Month Ended January 31, 2010

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Work in process, January 1</td>
<td></td>
</tr>
<tr>
<td>Direct materials used</td>
<td></td>
</tr>
<tr>
<td><strong>Direct labor</strong></td>
<td></td>
</tr>
<tr>
<td>Manufacturing overhead applied</td>
<td></td>
</tr>
<tr>
<td>Total manufacturing costs</td>
<td></td>
</tr>
<tr>
<td>Total cost of work in process</td>
<td></td>
</tr>
<tr>
<td>Less: Work in process, January 31</td>
<td></td>
</tr>
<tr>
<td>Cost of goods manufactured</td>
<td></td>
</tr>
</tbody>
</table>

(c) Finished goods, January 1

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of goods manufactured</td>
<td></td>
</tr>
<tr>
<td>Cost of goods available for sale</td>
<td></td>
</tr>
<tr>
<td>Finished goods, January 31</td>
<td></td>
</tr>
<tr>
<td>Cost of goods sold</td>
<td></td>
</tr>
</tbody>
</table>
**Problem 3:** Tapken Company’s fiscal year ends on June 30. The following accounts are found in its job order cost accounting system for the first month of the new fiscal year. Compute predetermined overhead rates, apply overhead, and calculate under- or overapplied overhead. Analyze manufacturing accounts and determine missing amounts.

### Raw materials Inventory

<table>
<thead>
<tr>
<th></th>
<th>July 1 Beginning Balance</th>
<th>July 31 Requisitions</th>
<th>July 31 Purchases</th>
<th>July 31 Ending Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw materials Inventory</td>
<td>19,000</td>
<td></td>
<td>90,400</td>
<td></td>
</tr>
</tbody>
</table>

### Work in Process Inventory

<table>
<thead>
<tr>
<th></th>
<th>July 1 Beginning Balance</th>
<th>July 31 Jobs Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work in Process Inventory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct materials</td>
<td>70,000</td>
<td></td>
</tr>
<tr>
<td>Direct labor</td>
<td>(d)</td>
<td></td>
</tr>
<tr>
<td>Overhead</td>
<td>(e)</td>
<td></td>
</tr>
<tr>
<td>ending balance</td>
<td>(g)</td>
<td></td>
</tr>
</tbody>
</table>

### Finished Goods Inventory

<table>
<thead>
<tr>
<th></th>
<th>July 1 Beginning Balance</th>
<th>July 31 Cost of good sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finished Goods Inventory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completed jobs</td>
<td>(i)</td>
<td></td>
</tr>
<tr>
<td>ending balance</td>
<td>(k)</td>
<td></td>
</tr>
</tbody>
</table>

### Factory Labor

<table>
<thead>
<tr>
<th></th>
<th>July 31 Factory wages</th>
<th>July 31 Wages Assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factory Labor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>wages</td>
<td>(l)</td>
<td>(m)</td>
</tr>
</tbody>
</table>

### Manufacturing Overhead

<table>
<thead>
<tr>
<th></th>
<th>July 1 Indirect materials</th>
<th>July 31 Overhead applied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing Overhead</td>
<td>8,900</td>
<td>104,000</td>
</tr>
<tr>
<td>indirect labor</td>
<td>16,000</td>
<td></td>
</tr>
<tr>
<td>Other overhead</td>
<td>(n)</td>
<td></td>
</tr>
</tbody>
</table>

Other data: 1. On July 1, two jobs were in process: Job No. 485 and Job No. 486, with costs of $19,000 and $8,200, respectively. 2. During July, Job Nos. 487, 488, and 489 were started. On July 31, only Job No. 489 was unfinished. This job had charges for direct materials $2,000 and direct labor $1,500, plus manufacturing overhead. Manufacturing overhead was applied at the rate of 130% of direct labor cost. 3. On July 1, Job No. 484, costing $135,000, was in the finished goods warehouse. On July 31, Job No. 488, costing $143,000, was in finished goods. 4. Overhead was $3,000 underapplied in July.

**Instructions:** Next to the letters (a) through (n) and indicate the amount. Show your calculations.
**Problem 4:** The following information is available for Kanza Company at December 31, 2010:

1. **Inventory balance**
   - **Beginning of Year**
   - **End of Year**
   - **Finished Goods**
     - $14,000
     - $10,000
   - **Work in Process**
     - 6,000
     - 8,000
   - **Raw Materials**
     - 10,300
     - 6,500

2. **Debit postings to Work in Process Inventory during the year were:**
   - **Direct materials**
     - $90,000
   - **Direct labor**
     - 50,000
   - **Manufacturing overhead applied**
     - 75,000

3. **Sales totaled $310,000 for the year.**

A. Prepare a condensed cost of goods manufactured schedule.
B. Prepare an income statement for the year through gross profit.

**KANZA COMPANY**

Cost of Goods Manufactured Schedule
For the Year Ended December 31, 2010

**KANZA COMPANY**

(Partial) Income Statement
For the Year Ended December 31, 2010
Problem 5: Klinger Company estimates that annual manufacturing overhead costs will be $2,400,000 for 2010. The actual overhead costs at the end of 2010 are $2,490,000. Activity base information for 2010 follows:

<table>
<thead>
<tr>
<th>Activity Base</th>
<th>Estimated</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Labor Cost</td>
<td>$2,000,000</td>
<td>$2,100,000</td>
</tr>
<tr>
<td>Direct Labor Hours</td>
<td>200,000</td>
<td>212,000</td>
</tr>
<tr>
<td>Machine Hours</td>
<td>150,000</td>
<td>152,000</td>
</tr>
</tbody>
</table>

Instructions
(a) Compute the predetermined overhead rate for each activity base.
(b) Compute the amount of overhead applied in 2010 for each activity base.
(c) Compute the amount of under- or overapplied overhead for 2010 for each activity base.

(a)