Assignment 8

The due date for submitting this assignment has passed. As per our course policy, you have not submitted the assignment.

Effect of temperature on the product yield is given below. Develop a simple linear regression relation

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>Yield (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>9</td>
</tr>
<tr>
<td>32</td>
<td>7</td>
</tr>
<tr>
<td>34</td>
<td>12</td>
</tr>
<tr>
<td>36</td>
<td>11</td>
</tr>
<tr>
<td>38</td>
<td>10</td>
</tr>
<tr>
<td>40</td>
<td>11</td>
</tr>
</tbody>
</table>

1) What is the slope?

- [ ] Yes, the answer is correct. 2 points
- [ ] No, the answer is incorrect. 0 points

2) What is the intercept?

- [ ] Yes, the answer is correct. 2 points
- [ ] No, the answer is incorrect. 0 points

3) What is the R²?

- [ ] Yes, the answer is correct. 2 points
- [ ] No, the answer is incorrect. 0 points

4) How many degrees of freedom for error?

- [ ] Yes, the answer is correct. 2 points
- [ ] No, the answer is incorrect. 0 points

5) What is the total sum of squares?

- [ ] Yes, the answer is correct. 6.5 points
- [ ] No, the answer is incorrect. 0 points

6) Is the factorial design a 3x2 design or 2x2 design?

- [ ] Yes, the answer is correct. 6.5 points
- [ ] No, the answer is incorrect. 0 points

7) How many experiments do we have to perform?

- [ ] Yes, the answer is correct. 6.5 points
- [ ] No, the answer is incorrect. 0 points

8) There is a 2^2 - 1 design, where n = __________

- [ ] Yes, the answer is correct. 6.5 points
- [ ] No, the answer is incorrect. 0 points

9) A factory is making screws. There were 10 samples taken and the number of defects are determined as given below:

   0 4 5 2 3 1 7 4 8 3 4 5 2 1 4 8 9 2 1 8 4

   a) You need to draw a PBC chart. What type of chart will we draw?
      - [ ] Yes, the answer is correct. 6.5 points
      - [ ] No, the answer is incorrect. 0 points

   b) Given the data for number of defects every month, indicate
      - [ ] Yes, the answer is correct. 6.5 points
      - [ ] No, the answer is incorrect. 0 points

   c) What are the type of chart?
      - [ ] Yes, the answer is correct. 6.5 points
      - [ ] No, the answer is incorrect. 0 points

   d) The process is not in control.
      - [ ] Yes, the answer is correct. 6.5 points
      - [ ] No, the answer is incorrect. 0 points