Assignment 1
The due date for submitting this assignment has passed. As per your instructor, you have not been awarded any points.

1. In our course, which notations do we have not encountered?
   - Multi-phase
   - Multi-scale
   - Heat transfer
   - Mass balance

   No, the answer is incorrect.
   Explanation:
   
   2. In horizontal tubes boiling, which sequence of regions will you encounter starting from inside of liquid?

   - Nucleate boiling - Transition boiling - Film boiling
   - Nucleate boiling - Transition boiling - Film boiling
   - Nucleate boiling - Transition boiling - Film boiling

   No, the answer is incorrect.
   Explanation:
   
   3. For homogeneous flow model, following is valid:

   \[ \phi_1 = \phi_2 = \phi_3 = \phi_4 \]
   \[ \eta_1 = \eta_2 = \eta_3 = \eta_4 \]

   No, the answer is incorrect.
   Explanation:
   
   4. In drift flux model, two phase distribution coefficient, C, can be written as:

   \[ C = \frac{\phi_1 - \phi_2}{\phi_1 + \phi_2} \]

   No, the answer is incorrect.
   Explanation:
   
   5. In separated flow, two phase multiplier are linked up as:

   \[ \phi_1 = \phi_2 = \phi_3 = \phi_4 \]

   No, the answer is incorrect.
   Explanation:
   
   A horizontal tube of 1.27 cm diameter and 7 m length is suddenly heated around its circumference with a total flux of 716 W/m². Water at saturated liquid state is expelled at the exit with a constant rate of 0.5 kg/s. Everything takes 15 minutes to reach steady state. Answer the following for constant calculation. The following table for data: Fluid properties:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density (kg/m³)</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>Viscosity (Pa·s)</td>
<td>0.001</td>
<td>0.002</td>
</tr>
<tr>
<td>Thermal conductivity (W/m·K)</td>
<td>0.5</td>
<td>0.6</td>
</tr>
</tbody>
</table>

   What is the quality (percent up to two decimal) of liquid vapor volume at each of tube?

   - 0.66
   - 0.53
   - 0.68
   - 0.22

   No, the answer is incorrect.
   Explanation:
   
   6. Consider the same problem in Q6. What is the average friction factor?

   - 3.93 x 10^-3
   - 3.03 x 10^-3
   - 4.92 x 10^-3
   - 3.47 x 10^-3

   No, the answer is incorrect.
   Explanation:
   
   7. Consider the same problem in Q6. What is the average frictional pressure drop (in kPa)?

   - 49.3
   - 39.5
   - 15.8
   - 30.3

   No, the answer is incorrect.
   Explanation:
   
   8. Consider the same problem in Q6. What is the acceleration pressure drop (in kPa)?

   - 1.82
   - 20.3
   - 20.3
   - 46.4

   No, the answer is incorrect.
   Explanation:
   
   9. Consider the same problem in Q6. What is the acceleration pressure drop (in kPa)?

   - 2.32
   - 38.3
   - 48.8
   - 61.5

   No, the answer is incorrect.
   Explanation:
   

   - 58.77
   - 58.77
   - 58.77
   - 58.77

   No, the answer is incorrect.
   Explanation: