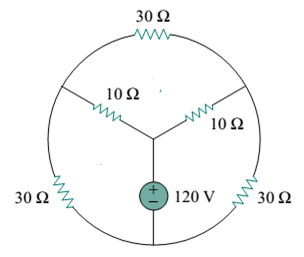
**Question (1):** For the circuit shown in Figure (1), find ***the current through each resistance*** using ***Node Analysis*** (***10 marks)***



|  |
| --- |
| **Figure (1)** |

**Question (2):**

In the diagram in figure (**2**), and

Ampere. What is the type of the impedance of the **BOX**? Explain your answer. **(*5marks*)**

|  |  |
| --- | --- |
|  | **Figure (2)** |

**Question (3):** A series **R-L** circuit connected with AC supply. If the magnitude of the inductive reactance was twice the value of pure element, ***find*** the ***power factor***.  **(*5marks*)**

|  |  |
| --- | --- |
|  |  |