5 A power station in China produces 3.0 MW of electrical power to be supplied to a town 25 km away. This power is generated at 25 kV and is subsequently stepped up to 125 kV using a transformer before the transmission. The transmission cables has a total resistance of 80 Ω and the station loses $0.25 for every 1 kWh of electrical energy lost in transmission cables.

(a) Determine the amount of power lost during transmission.

power lost = …….. W [2]

(b) Hence, calculate the amount of money lost by the station in a day.

money lost = $…….. [2]

(c) State two assumptions made in your calculations in **(b)**.

……

……

……[2]

[Total: 6]