Question 33436 a) According to Ohms law, $I = \frac{U}{R}$. Hence, the resistance of coil is $R = \frac{U}{I} = \frac{120}{9.25} = 12.97$.

b) Resistivity of nichrome is $\rho = 1.5 \cdot 10^{-6}$ ohm. Thus, length needed is $l = \frac{RS}{\rho} = \frac{R\pi r^2}{\rho} = 169.7$ m.