a. What is charge on drum?

$$\vec{E} = \frac{\vec{q}}{\varepsilon_0}$$

Therefore,

$$\vec{q} = \varepsilon_0 \vec{E} \cdot A$$

$$\varepsilon_0 = 8.85 \times 10^{-12} \text{ C}^2/(\text{N} \cdot \text{m}^2)$$

$$A = 1.40 \times 10^{-5} \text{ m}^2$$

$$\vec{q} = 7.56 \times 10^{-8} \text{ C}$$

b. If paper size increased to $A' = 0.122 \text{ m}^2$, what would $q'$ need to be?

$$q' = \varepsilon_0 EA'$$

where $A' = 2A$.

Therefore,

$$q' = 2q$$

$$q = 1.51 \times 10^{-7} \text{ C}$$