**Answer on Question 58307, Physics, Electromagnetism**

**Question:**

2. Matt forgot to put the fabric softener in the wash. As his socks tumbled in the dryer, they became charged. If a small piece of lint with a charge of $1.25 \cdot 10^{-19}\ C$ is attracted to the socks by a force of $3.0 \cdot 10^{-9}\ N$, what is the magnitude of the electric field at this location?

**Solution:**

By the definition of the electric field we have:

$$E = \frac{F_e}{q} = \frac{3.0 \cdot 10^{-9}\ N}{1.25 \cdot 10^{-19}\ C} = 2.4 \cdot 10^{10}\ \frac{N}{C}.$$

**Answer:**

$E = 2.4 \cdot 10^{10}\ \frac{N}{C}$.