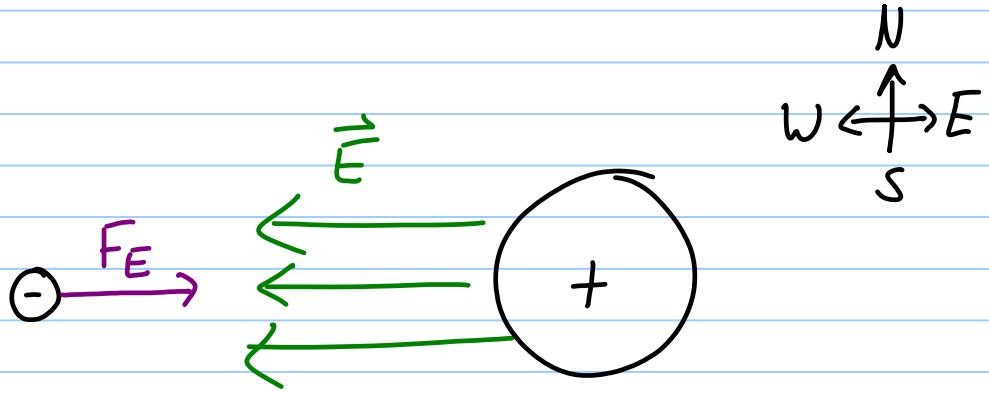
Note Title 07/02/2010

1) A negative charge placed in an electric field experiences a force due east. What is the direction of the electric field.

a. North
b. East
c. South
d. West

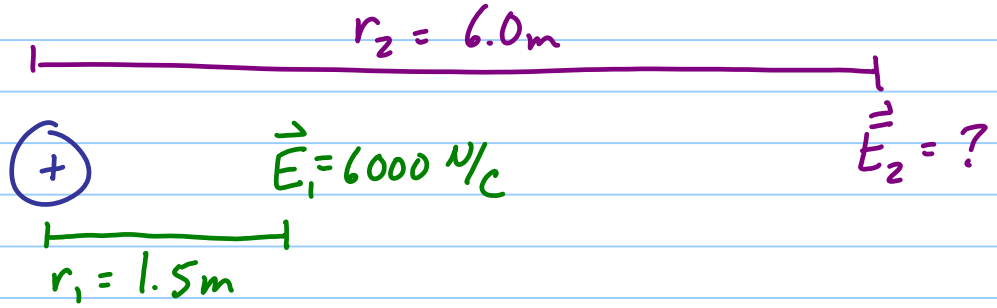
2) An electric field has a strength 6000 N/C at a distance of 1.5 m. What is the strength of the field at a distance of 6.0 m?

1.)



Field is West ✓✓

2.)



$\vec{E}_1 = \frac{kq}{r^2}$ ✓

$q = \frac{\vec{E}_1 r_1^2}{k}$

$= 1.5 \times 10^{-6} C$ ✓

$E_2 = \frac{kq}{r_2^2} = \frac{(9.0 \times 10^9)(1.5 \times 10^{-6})}{(6.0)^2}$

$= 375\ N/C$ ✓