27.3

Datos

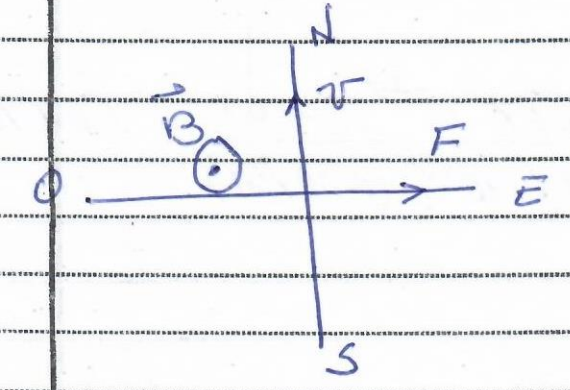
$q = 8.5 \cdot 10^{-6}\ C$

$B = 1.25\ T$

$v = 4.75\ km/s$

$F = |q| v B \sin\phi$

$F = (8.5 \cdot 10^{-6}\ C)(4.75 \cdot 10^{3}\ m/s)(1.25\ T)\ \sin 90 = 0.0505\ N$



27.15

Datos

$v = 1.41 \cdot 10^{6}\ m/s$

$q_e = 1.6 \cdot 10^{-19}\ C$

$m = 9.109 \cdot 10^{-31}\ kg$

$R = 5 \cdot 10^{-2}\ m$

Como la velocidad es perpendicular a la fuerza, esta actúa como fuerza centrípeta

$F_c = F_m = \frac{mv^2}{R} = |q| v B \sin 90$

$B = \frac{mv}{|q|R} = \frac{(9109 \cdot 10^{-31})(1.41 \cdot 10^{6})}{(1.602 \cdot 10^{-19})(0.05)} = 1.6 \cdot 10^{-4}\ T$