Electron Mass Activity

A mass spectrometer is used to determine the mass of an electron.
Electrons enter the region of magnetic field with a velocity of $3x10^7 \pm 1x10^6$ ms^{-1}.

The radius of the circular path is measured for different magnetic field strengths.
The data collected is given in the following table.

Magnetic Field Strength B/T ±0.0005									
0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009	0.01
Radius of Circular Path r/m									
0.1715	0.0854	0.0568	0.0427	0.0341	0.0281	0.0244	0.0213	0.0191	0.0171
0.1714	0.0855	0.0569	0.0426	0.0342	0.0285	0.0241	0.0213	0.0189	0.017
0.1711	0.0851	0.057	0.0427	0.0344	0.0287	0.0244	0.0214	0.0187	0.0169
0.1719	0.0852	0.0571	0.0428	0.034	0.0283	0.0243	0.0215	0.0192	0.0172
0.1716	0.0855	0.0569	0.0421	0.0341	0.0285	0.0246	0.0216	0.0193	0.0173
0.1711	0.0851	0.0568	0.0425	0.0342	0.0286	0.0247	0.0211	0.0191	0.0171
0.1711	0.0851	0.0567	0.0426	0.0341	0.0283	0.0243	0.0215	0.019	0.0172
0.1712	0.0852	0.0569	0.0427	0.0337	0.0284	0.0245	0.0216	0.0192	0.0173
0.1712	0.0853	0.0567	0.0429	0.0341	0.0281	0.0246	0.0214	0.0191	0.0174
0.1713	0.0851	0.0569	0.0429	0.0342	0.0286	0.0244	0.0216	0.0188	0.0173

Determine the relationship between magnetic field strength and radius and produce a linear graph demonstrating this relationship.

The slope of the line is given by $\frac{mv}{q}$.

Calculate the mass of the electron as determined by the data collected.