

Question 1

What is the minimum number of magnets that it takes to prove the basic fact that same-sign poles repel, and opposite-sign poles attract? (Without any additional equipment such as saws or electron beams, etc.)

- 2.1% 1
- 0.0% 2
- 97.9% 3 Your Answer
- 0% 0
- 0% 4

Question 2

Calculate the magnitude of the magnetic force on a hypothetical particle of charge 8.15×10^{-19} C moving with a velocity of $3.6 \times 10^4 \hat{i}$ m/s in a magnetic field of $(1.1 \hat{i} + 0.5 \hat{k})$ T.

- 97.3% 1.47e-14 Newtons Your Answer
- 1.6% 5.63e-15 Newtons
- 0.0% 2.65e-14 Newtons
- 0.5% 1.96e-14 Newtons
- 0.5% 4.69e-14 Newtons

Question 3

Calculate the maximum torque on a circular current loop of radius 15 cm containing 1720 loops of wire each carrying 142 A rotating in a uniform magnetic field of 1.5 T.

- 97.9% 2.59e+4 Nm Your Answer
- 1.1% 2.11e+4 Nm
- 0.0% 2.21e+4 Nm
- 0.0% 2.08e+4 Nm
- 1.1% 3.33e+4 Nm