```matlab
m_p = 1.67*10e-27;
q = 1.6*10e-19;
r = 0.5;
B=2;
E_k=0.5*((q^2*B^2*r^2)/(m_p))
E_kmev=E_k*6241509341896.7
%E_k = 7.6647e-11 joule
%E_kmev = 478.3911 MeV


        E_k =

          7.6647e-11


        E_kmev =

          478.3911
```

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