**IB Physics**

**FA 17.1 - Energy**

Name

Favorite Movie

**Show your work, and circle your answers and use sig figs to receive full credit.**

When you have finished this, go to the website and check your answers. If you got a problem wrong, cross it off on the front, and do it correctly on the back.

1. If it takes +34.0 J of work to move a -250. µC charge from plate A to plate B, what is the potential difference, and which plate is more positive, A or B?

2. What is the velocity of a proton accelerated through 3.70 Volts from rest?

3. Find the electric potential **at point p and point q**. Charge A is -3.10 µC, B is +2.60 µC, and each grid line is a meter.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **A** |  |  | **p** |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  | **q** |  |  |
|  | **B** |  |  |  |  |
|  |  |  |  |  |  |

4. What work would it take to move a +370. µC charge from point q to point p?

5. A 5.20 kg piece of rock is in an elliptical orbit around a 4.80x1024 kg planet. At one point in time, its velocity is 6790 m/s when it is at a distance of 8.40x106 m from the planet's center. What is its distance from the planet's center when it is going 5860 m/s?