

Name \_\_\_\_\_

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

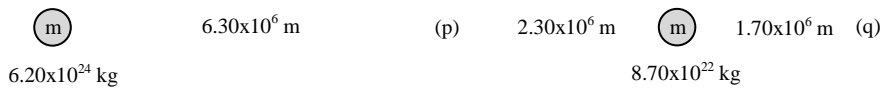
When you have finished this, go to the website and check your answers. If you got a problem wrong, cross it off on the front, and do it correctly on the back.

1. A uniform electrical field exerts a force of 0.890 N to the left on a  $-410. \mu\text{C}$  charge. What is the change in electrical potential if you move 2.60 m to the left? Is it an increase in potential, or a decrease?

2. If you move a mass vertically from point A to point B in a uniform gravitational field, the potential changes from  $-12.0 \text{ J/kg}$  to  $+23.0 \text{ J/kg}$  in a distance of 17.0 m. What force does the field exert on a 5.20 kg mass, and which point is at a higher elevation, A or B? Does the field point toward A or B?

3. What is the electric field 34.5 cm above a  $-12.0 \mu\text{C}$  charge?

4. Find the gravitational field at p and at point q:



5. Find the electric field at point p. Draw the electric field vector, and label its magnitude and direction. Charge A is  $-1.80 \mu\text{C}$ , B is  $+2.60 \mu\text{C}$ , and each grid line is a meter.

