**PreQuiz 16-17.3**

**Voltage**

Name

Favorite TV Show

**Each grid line is a meter. Charge A is +12.4 x 10-6 C, and charge B is -36.1 x 10-6 C. Carry at least 4 sig figs for your calculations. Express your answer with 3 sig figs.**

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|  |  |  |  |  |  |  | **y** |  |  |  |  |  |  |
|  |  |  |  | **A** |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | **B** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **P** |  |  |  |  |  | **x** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  | **Q** |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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1. What is the voltage at point P? (The origin)

(-2.93x104 V)

2. What is the voltage at point Q?

(-3.72x104 V)

3. How much work would it take to move a -1.13 x 10-6 C charge from very far away to point P? (The origin)

(.0331 J)

4. If the charge in the previous problem had a mass of .0124 kg and were released from point P, what would be its speed when it is very far away? (2.31 m/s)

5. How much work would you have to do to move the charge from problem 3 from point P to point Q?

(.00901 J)