**PHYS 202 … Practice Problems … Electric Potential Part A Answers**

**Electric Potential and Potential Energy … “Plug and Chug” problems**

**Part 1** … Electric potential energy between two point charges (taking the potential energy to be zero when infinitely far apart)

1. 1.54 x 10-5 J
2. -1.10 x 10-4 J
3. 2.11 x 10-5 J
4. 1.79 J
5. 5.38 cm

**Part 2** … Electric potential energy between a collection of charges (taking the potential energy to be zero when infinitely far apart)

1. -4.41 x 10-25 J
2. -8.76 x 10-27 J
3. -6.50 x 10-25 J
4. -4.41 x 10-25 J

**Part 3** … Electric potential due to a single point charge (taking the potential to be zero at infinity)

1. 7.15 kV
2. -18.9 kV
3. -0.178 nV
4. 4.43 x 10-12 m

**Part 4** … Electric potential due to a collection of point charges (taking the potential to be zero at infinity)

1. -4.15 x 10-6 V
2. 1.70 x 10-6 V
3. -1.70 x 10-6 V
4. 4.15 x 10-6 V
5. An electron is located on the x-axis at x = 0.525 mm. A proton is located on the x-axis at x = 0.948 mm. A second electron is located on the y-axis at y = 0.492 mm. What is the total electric potential on the y-axis at y = 0.655 mm?

TBC

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