

## Prelab PHYS222 **Even Version**

Name \_\_\_\_\_ Time lab meets \_\_\_\_\_ or section \_\_\_\_\_

### Experiment # 17-Electric Fields and Potential

1. What is electrical potential? What are the units?
2. What is an equipotential surface?
3. What is the electric field? What are the units (give both listed in theory section)?
4. Complete the following statement. Electric field lines are always \_\_\_\_\_ to equipotential surfaces (or lines).
5. Explain the statement; ‘the electric field is the negative gradient of potential.’
6. On page 323 of your text (Openstax - University Physics- Volume 2) in Figure 7.36 there is both a photo and topographical map of the Devil’s Tower, Wyoming.  
Make a rough sketch of the topographical map and clearly **label with an arrow** one place where you think the point of greatest curvature is (i.e., the place where the equipotential lines are closest together) and one **label (with an arrow)** one place at the point of least curvature (i.e., the place where the equipotential lines are farthest apart).  
This is another way of asking which location would a ball rolls fastest and slowest, respectively. There are many correct answers *based upon this topo map* (which means everyone should not have the locations and directions).