

Name _____

Due Date _____

Points Possible 10

Show ALL your work (neatly) on a separate sheet of paper and attach this as a cover sheet for full credit.

We are working on a slope. Use the _____ quad map, to calculate the following:

- /2 1. Find _____ and _____ on your map. **What is the elevation difference between these two points?** This can also be called a vertical distance. Measure between these two points. **What is the map distance and ground distance between these two points?**
- /2 2. The ground distance calculated on a map is the horizontal distance on a slope. Set up a right triangle and figure out the **slope distance** between these two points in feet. Use the same right triangle to figure out the **slope angle in degrees, minutes, seconds looking from the lower elevation to higher elevation**. If you were sighting from the **top down the slope, what would the slope angle be?**
- /2 3. You're going to put a trail in up this slope. The vertical distance gained on each switchback will be 60 feet and the length of each trail segment between switchbacks will be 1,200 feet. **How long will the trail between the two points be? What will the slope be along these switchbacks?**
- /2 4. As you put the trail in, you run into a large Ponderosa pine (*Pinus ponderosa*). You'll need to cut it down to finish the trail. Standing 100 feet directly down the slope from it (NOT on the trail slope, but on the hill's slope), you take out your clinometer and measure the angle to the top as 64 degrees and the angle to the bottom at -2 degrees. **How tall is this tree?**
- /2 5. You take out your diameter tape and measure the tree's diameter as 39 inches. **What is the basal area of this tree (in square inches)?** Assume the tree is straight up and down like a cylinder. **What is the volume of the tree in cubic inches? In cubic feet? What is the volume of the tree in cubic feet if you lose if you lose 20% of the volume to taper?**