FOR 274 Assignment 7 [50 points] Name: _____

This assignment should be completed and handed in to the assignment box in the Forest Resources office by noon on Monday 19th of October. Partial credit will only be given for incorrect answers if you show your work.

1. For the following trees calculate the crown surface area (ft^2) and volume (ft^3) by assuming tree crown shapes of (i) cones and (ii) cylinders (Hint: Use Excel):

    a. 6 ft in diameter at the base and 18 ft in length

    b. 10 ft in diameter at the base and 68 ft in length
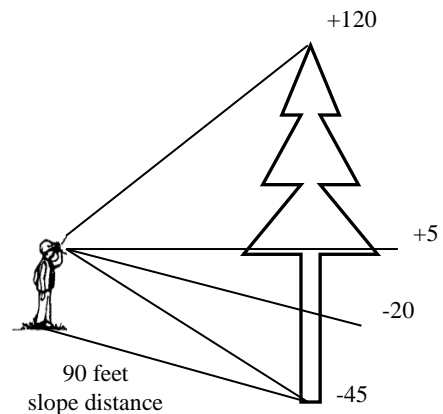
    c. 9 ft in diameter at the base and 82 ft in length

    d. 2 ft in diameter at the base and 36 ft in length

    e. 3 m in diameter at the base and 20 m in length

    f. 1.5 m in diameter at the base and 15 m in length

2. What is the percent live crown for the tree shown below?
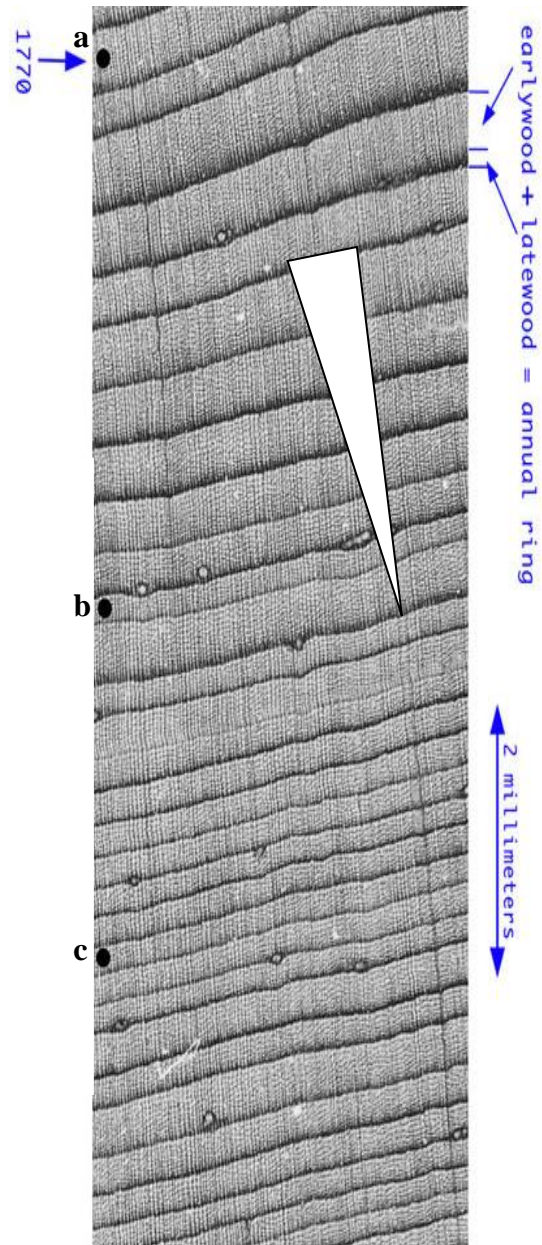   Hypsometer readings are expressed in percent units

+120

+5

-20

-45

90 feet
slope distance

3. For the image on the right:

a. What is the tree age associated with the lower two black dots. What did you assume in making this assessment?

b. If we assume that the white triangle represents some form of damage (for example the result of a fire). Explain what year the damage occurred?

c. What is the average annual rate of growth from a to b and from b to c? Explain any differences you find.

4. Compute the total volume and total value for these items of lumber
    a. 136 pieces 3 in x 6 in. x 16 ft @ $228.50 per MBF

    b. 254 pieces 2 in x 8 in. x 18 ft @ $336.00 per MBF

    c. 346 pieces 4 in x 4 in. x 20 ft @ $232.45 per MBF

5. Calculate the volume in standard cords for the following stacks of wood:
    a. 20 ft x 80 ft x 4 ft

    b. 12 ft x 32 ft x 5 ft

    c. 16 ft x 32 ft x 10 ft

    d. 50 ft x 80 ft x 10 ft

    e. 20 ft x 20 ft x 4 ft

6. Which class of instruments do loggers tapes, calipers, and Biltmore sticks all belong to?

7. Which class of instruments do clinometers and Abney levels belong to?