

2017 National FFA Team Activity

State Team Name: _____

Mrs. Jones has a wooded tract and is interested in selling her timber. You are a forester who represents a logging company. You are working to evaluate the stand for your company and to answer some questions that Mrs. Jones has about her woodland. You should work together to get the answers to the questions. The letters A-O refer to stops in the forest where you will need to take measurements and make observations.

Notes:

Merchantable heights are estimated to the upper point on a tree where it becomes 10 inches in diameter, OR, where a major fork in a tree stem occurs, OR, where a limb or cluster of limbs have a combined diameter equal to $\frac{1}{2}$ of the diameter of the tree at that point. These upper limit rules are called "stoppers".

When figuring tree volumes, all trees are considered sound for the purpose of this exercise (no cull deductions). There is no pulpwood market in this area.

Measure the tree diameters in 1-inch diameter classes

Measure merchantable tree heights in 16-foot logs (to the nearest $\frac{1}{2}$ log)

Assume no declination (0°) when using compasses

Needed Equipment: Biltmore Stick, compass, calculator, and volume table

Use the tree volume table provided, **NOT** the scale on the Biltmore stick

Each question is worth 1 point unless otherwise noted.

A.

- 1) Identify this tree. (2 points) _____
- 2) What is the diameter of this tree? _____
- 3) What is the merchantable height? _____
- 4) What is the board foot volume? (3 points) _____
- 5) What disorder does this tree possess? (2 points) _____

B.

- 6) Identify this tree. (2 points) _____
- 7) What is the diameter of this tree? _____
- 8) What is the merchantable height? _____
- 9) What is the board foot volume? (3 points) _____

C.

- 10) Identify this tree. (2 points) _____
- 11) What is the diameter of this tree? _____
- 12) What is the merchantable height? _____
- 13) What is the board foot volume? (3 points) _____

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D.

- 14)** Identify this tree. (2 points) _____
15) What is the diameter of this tree? _____
16) What is the merchantable height? _____
17) What is the board foot volume? (3 points) _____

E.

- 18)** Identify this tree. (2 points) _____
19) What is the diameter of this tree? _____
20) What is the merchantable height? _____
21) What is the board foot volume? (3 points) _____

F. Refer to the line marked by the two stakes

- 22)** Along what azimuth does the marked "boundary" line extend? (3 points)

23) How many feet is this leg of the boundary? (3 points) _____

G. Refer to the line marked by the two stakes

- 24)** Along what azimuth does the marked "boundary" line extend? (3 points)

25) How many feet is this leg of the boundary? (3 points) _____

H.

- 26)** Identify this tree. (2 points) _____
27) What is the diameter of this tree? _____
28) What is the merchantable height? _____
29) What is the board foot volume? (3 points) _____

I. Use the provided USGS Topography Map to answer the following questions:

- 30)** What is the Scale of this USGS Topography Map? _____

31) What is the Contour Interval of this USGS Topography Map? _____

32) Hindustan is located in what quarter of section 13, Township 10N, Range 1W? _____
33) What is the elevation of the lookout tower in section 4, Township 10N, Range 1E? _____
34) You are now located south of the buildings west of Cherry Lake which is just south of the lookout tower from the previous question...what section are you in? _____

J.

- 35)** What is this tool? _____
36) Use the tool to take a reading at the point marked by the stake. Beware of dead trees. Do not count them. (2 points) _____

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K.

37) Identify this tree. (2 points) _____

38) This species dominate much of the understory. What characteristic allows this species to grow well in the understory? _____

L

39) Identify this tree. (2 points) _____

40) What is the diameter of this tree? _____

41) What is the merchantable height? _____

42) What is the board foot volume? (3 points) _____

M.

43) What disorder does this tree possess? (2 points) _____

N.

44) Identify this tree. (2 points) _____

45) What is the diameter of this tree? _____

46) What is the merchantable height? _____

47) What is the board foot volume? (3 points) _____

O. Refer to the line marked by the two stakes

48) Along what azimuth does the marked "boundary" line extend? (3 points)

49) How many feet is this leg of the boundary? (3 points) _____

P. Refer to the line marked by the two stakes

50) Along what azimuth does the marked "boundary" line extend? (3 points)

51) How many feet is this leg of the boundary? (3 points) _____

Q. Refer to the line marked by the two stakes

52) Along what azimuth does the marked "boundary" line extend? (3 points)

53) How many feet is this leg of the boundary? (3 points) _____

R.

54) Identify this tree. (2 points) _____

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Business Problem

You have evaluated the stand of timber for your logging company. Mrs. Jones has 40 acres of timber you would like to purchase. Your task is to figure out how much you can offer Mrs. Jones for her timber while covering costs and still making a reasonable profit. Use the information below, the attached timber summary sheet, and the attached delivered timber price list.

Species	Total Volume (bd ft)	Price Delivered to Mill (\$/1,000 bd ft)
Yellow Poplar	24,000	250
White Oak	16,000	550
Red Oak	16,000	500
Misc	12,000	250
Walnut	7,000	600

You know that in this area it costs about \$150 per thousand to operate your logging crew (stump to log deck), \$50 per thousand to haul to the mill, and \$25 per acre to retire your roads, trails and landings.

You would like to make a 20% profit over your expenses.

55. What is your logging cost? _____
56. What is your hauling cost? _____
57. What is your site retirement cost? _____
58. How much is your projected profit? _____
59. How much do you expect to get at the mill? _____
60. What is your offer to Mrs. Jones? (5 points) _____