

Academic/Career & Technical Related/Demonstration Lesson Plan

Instructor Georger

Date _____

Program/Class SR CARPENTRY

Period: 5b-8

State Indicator/Competency:

- 14.1 Interpret construction drawings and demonstrate construction layout procedures
- 14.15 Install shingles

Instructional Objective(s):

- The students will be able to calculate shingles for a house with 90% accuracy.
- The students will be able to calculate roofing felt for a house with 90% accuracy.

Materials:

- House plans
- pencil
- Paper
- calculator

Method of Instruction:

student led

Activities:

D. Estimating

1. Shingles for a Gable Roof

- a. Multiply ridgeboard length times the rafter length.
- b. Double this to allow for the other side of the roof.
- c. Add one square foot per lineal feet of ridge for ridge caps
- d. Add sf of roof and sf of ridge then divide this sum by 100 to calculate number of squares of shingles
- e. Multiply by 1.03 to add 3% waste.
- f. Round # up to next .33 square (shingles are usually 3 bundles per 100 sf, so each bundle is 33 sf)

3. Underlayment

- a. Divide the roof area by the square feet in a roll.
- b. 15# felt is 400 sf per roll
- c. 30# felt is 200 sf per roll

Assessment:

- Calculate the bundles of shingles need for the house plans _____ bundles at 33 sf per bundle

- Calculate the rolls of 30# felt required for the house plans _____ rolls of 30# felt
- Calculate the rolls of 15# felt required for the house plans _____ rolls of 15# felt