

Unit 3

GENERAL SAFETY

Text Pages 33-37

Name _____

Date _____ Score _____

INSTRUCTIONS: Carefully read Unit 3 of the text and answer the following questions.

Part I—General Safety Practices

1. List three types of safety equipment that can be used to protect your eyes.
1A. _____
B. _____
C. _____
2. Even the slightest injury should be reported immediately to the instructor. True or False?
2. _____
3. What should you do when you observe unsafe conditions?
A. Tell other students about the condition.
B. Notify the instructor.
C. Correct the unsafe condition yourself and do not tell anyone.
D. Allow the unsafe condition to go on without telling anyone.
3. _____
4. All used shops rags should be placed in a _____
_____ container.
4. _____
5. What does NIOSH stand for? _____

Part II—Working Safely with Tools and Equipment

6. Many files are supplied without a handle to cover the tang. These may be safely used if the tine is pointed away from the operator. True or False?
6. _____
7. A dull cutting tool is less apt to cause a personal injury than a sharp cutting tool. True or False?
7. _____
8. Carry sharp tools with their cutting edges pointing _____.
8. _____
9. Always cut away from your _____.
9. _____

10. If a tool breaks while you are using it, what should you do? 10. _____
A. Return it to the storage cabinet.
B. Repair the broken tool yourself and then tell the instructor.
C. Inform the instructor of the problem.

Part III—Working Safely With and Around Machines

11. Ask your instructor for permission before using any machine. 11. _____
True or False?
12. Make sure everyone is out of the _____ 12. _____
around a machine before beginning an operation.
13. You can allow the machine to continue running while making 13. _____
adjustments. True or False?
14. The _____ is in charge of a machine during its use. 14. _____
A. machine operator and assistant
B. instructor
C. machine operator
15. List three things that you should look for when checking 15A. _____
wiring, cords, and switches of electrical tools and equipment. B. _____
C. _____
16. Removing a grounding pin from a grounded plug creates a hazardous situation. Describe what
can occur if the grounding pin is removed.

17. What device can be used for checking for electrical problems? 17. _____
18. List three problems that may result from using an overheated tool.

19. In some cases, belts covered by guards are not inspected 19. _____
regularly. This can result in a mechanical breakdown or in-
jury. True or False?

Part IV—Fire Protection

20. Every woods laboratory should be equipped with an ABC-rated 20. _____
fire extinguisher. True or False?
21. Flammables including finishes and solvents should be pur- 21. _____
chased in quantities needed at the time of use. True or False?

Unit 11

WOOD JOINTS

Text Pages 96-108

Name _____

Date _____ Score _____

INSTRUCTIONS: Carefully read Unit 11 of the text and answer the following questions.

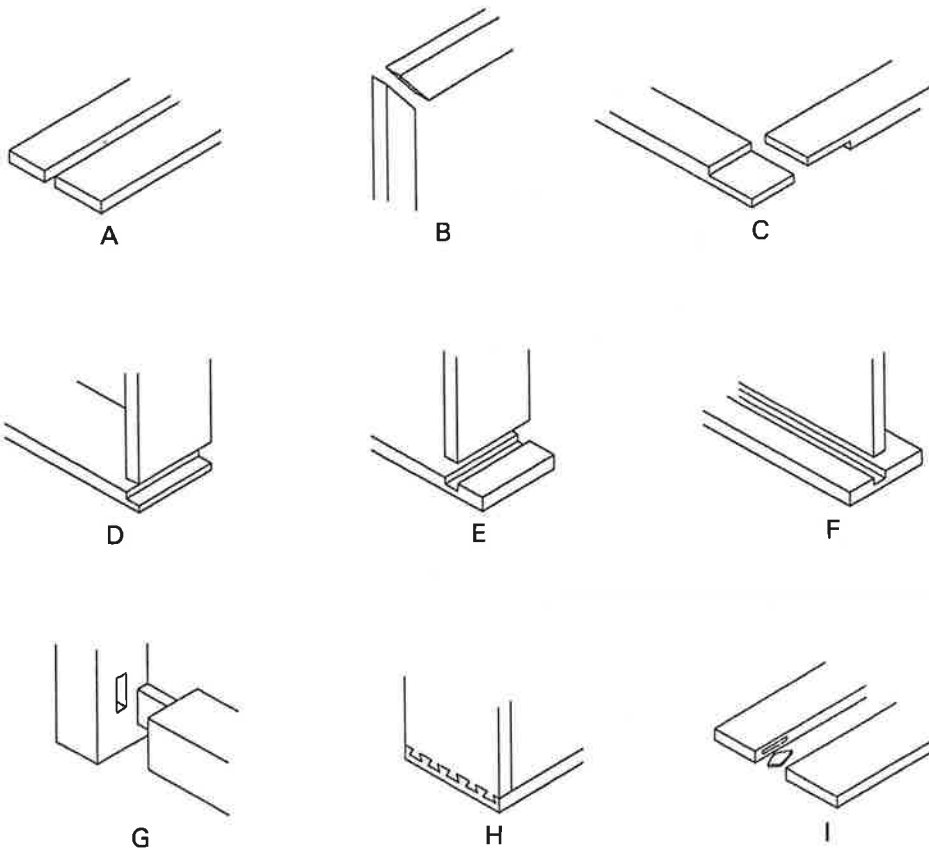
Part I—Wood Joints

1. The strongest joints fastened with glue are those involving the _____ and _____ of the stock.
2. The weakest joints usually involve the _____ of the stock.
3. List three metal fasteners used to reinforce wood joints.

1. _____
2. _____
3. _____

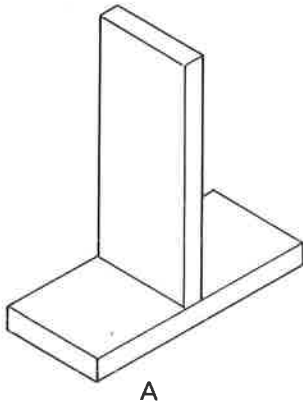
4. Identify the wood joints in the following illustration.

- 4A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____
- H. _____
- I. _____
- J. _____

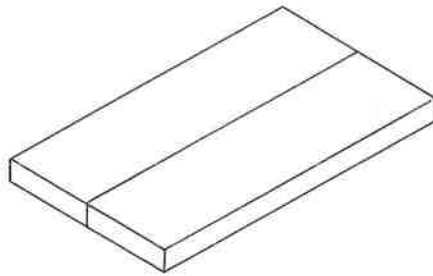


Part II—Butt Joints

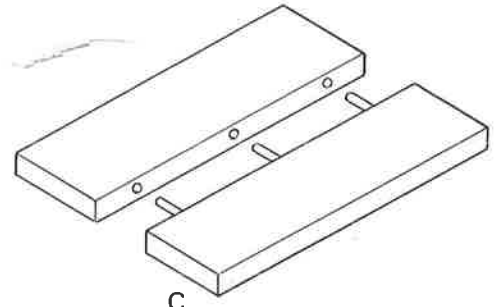
5. Identify the following butt joints.



A



B



C

- 5A. _____
- B. _____
- C. _____

6. When making an edge butt joint, you should try to match the _____ of the pieces so the surface grain of all pieces runs in the same direction.

6. _____

7. Why should the end grain of adjacent pieces in an edge butt joint be opposite each other?

8. Reinforcement should be used for edge butt joints that are more than _____ feet in length.

8. _____

9. The diameter of dowels for butt joints should be about _____ the thickness of the stock.

9. _____

10. The dowels used for reinforcement in a butt joint should only penetrate the stock about 1/8 inch. True or False?

10. _____

11. _____ are small, metal, standard-size cylinders with sharp center points. They are used to locate the center of dowel holes.

11. _____

Part III—Miter Joints

12. List two applications for miter joints.

13. List four ways to strengthen miter joints.

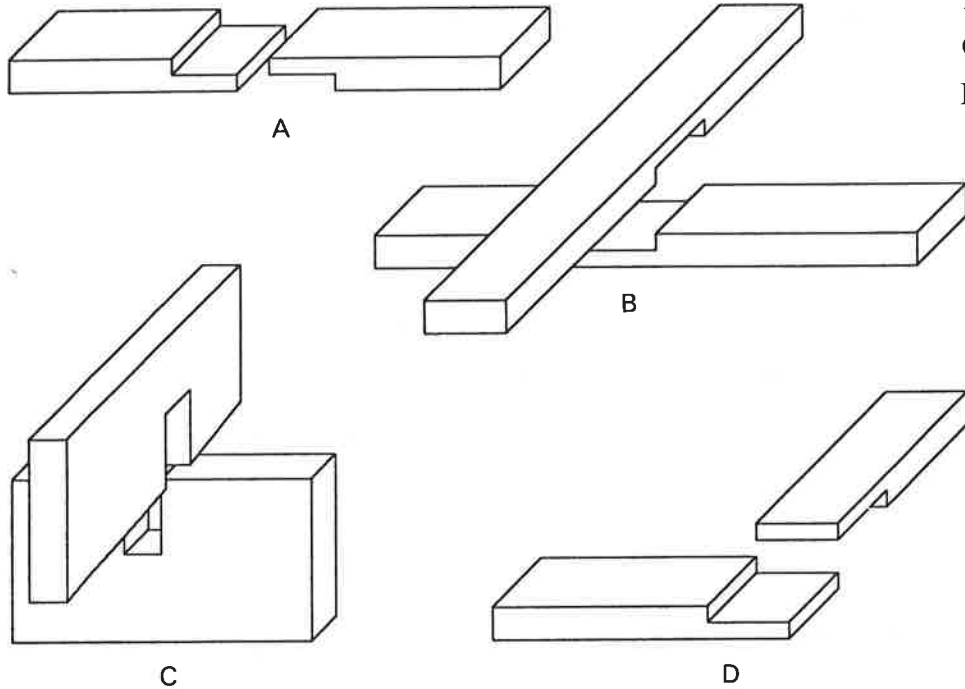
- 13. _____
- _____
- _____
- _____

Name _____

14. When making a miter joint, set the miter box to _____ degrees to form an accurate 90 degree corner. 14. _____

Part IV—Lap Joints

15. Identify the types of lap joints in the following illustration. 15A. _____



- B. _____
C. _____
D. _____

16. The thickness of a cut made in a piece of stock used for a lap joint is _____ of its original thickness. 16. _____

Part V—Rabbet Joints

17. What is a common use for a rabbet joint?

18. A _____ plane can be used to make rabbets. 18. _____

19. When making a rabbet with a dado head, use several passes over the dado head to obtain the correct depth. True or False? 19. _____

Part VI—Dado Joints

20. A dado is a square-cornered recess that runs _____ the grain of the stock. 20. _____

21. List two common uses of dado joints.

22. When removing the waste from a dado or groove joint with a chisel, the bevel side should be held _____.

22. _____

23. When the rough dado or groove has been formed with a chisel, turn the chisel so the bevel side is _____ for better control.

23. _____

Part VII—Groove Joints

24. How do dado and groove joints differ?

25. What is one of the most common uses of a groove joint?

26. Lines for a groove can be easily laid out using a _____

26. _____

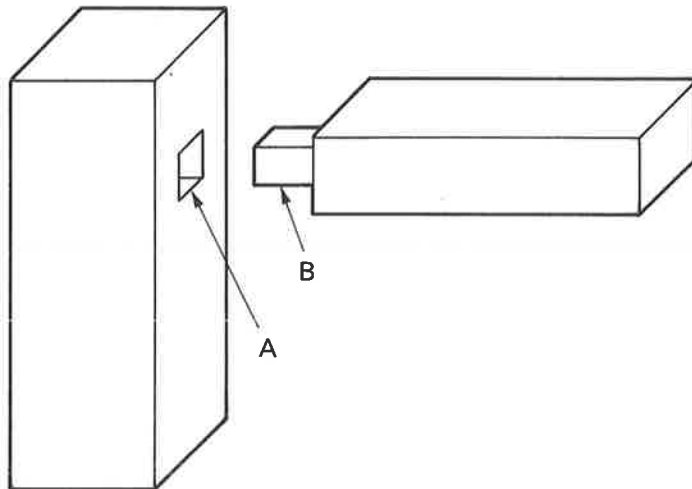
_____.

Part VIII—Mortise and Tenon Joints

27. Identify the parts of the following mortise and tenon joint.

27A. _____

B. _____



28. The tenon of a _____ mortise and tenon is hidden.

28. _____

29. The tenon of a _____ mortise and tenon is partially exposed.

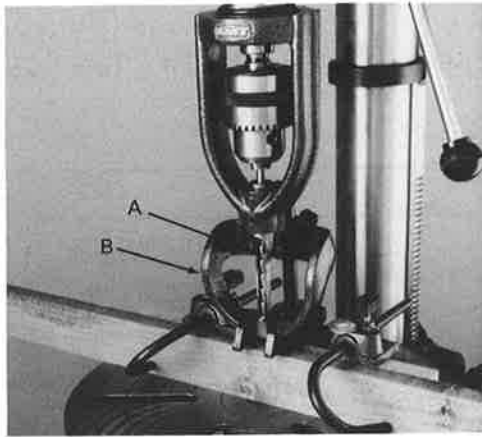
29. _____

30. When making a mortise and tenon joint, the _____ should be made first.

30. _____

Name _____

31. Identify the parts of the following mortising attachment.



31A. _____

B. _____

32. Mortising chisels are available in standard sizes ranging from _____ inch to _____ inch.

32. _____

Part IX—Dovetail Joints

33. Dovetail joints are often used in high-quality furniture for _____ construction.

33. _____

34. The most efficient means of making a dovetail joint is by using a router and a _____.

34. _____

35. When positioning the stock for a dovetail joint in the fixture, the _____ piece should be placed against the guide pin on top of the fixture.

35. _____

Part X—Plate Joinery

36. Plate joinery was developed in Europe in the _____.

36. _____

37. The _____, or _____, is a flat football-shaped piece of beech.

37. _____

38. Biscuits are available in _____ standard sizes.

38. _____

39. A _____ adhesive is used in plate joinery.

39. _____

40. When making a plate joint, the semicircular slot is cut into the stock with a special portable power tool called a _____.

40. _____

41. A dry run should be made before applying glue to a plate joint. True or False?

41. _____

Part XI—Box Joints

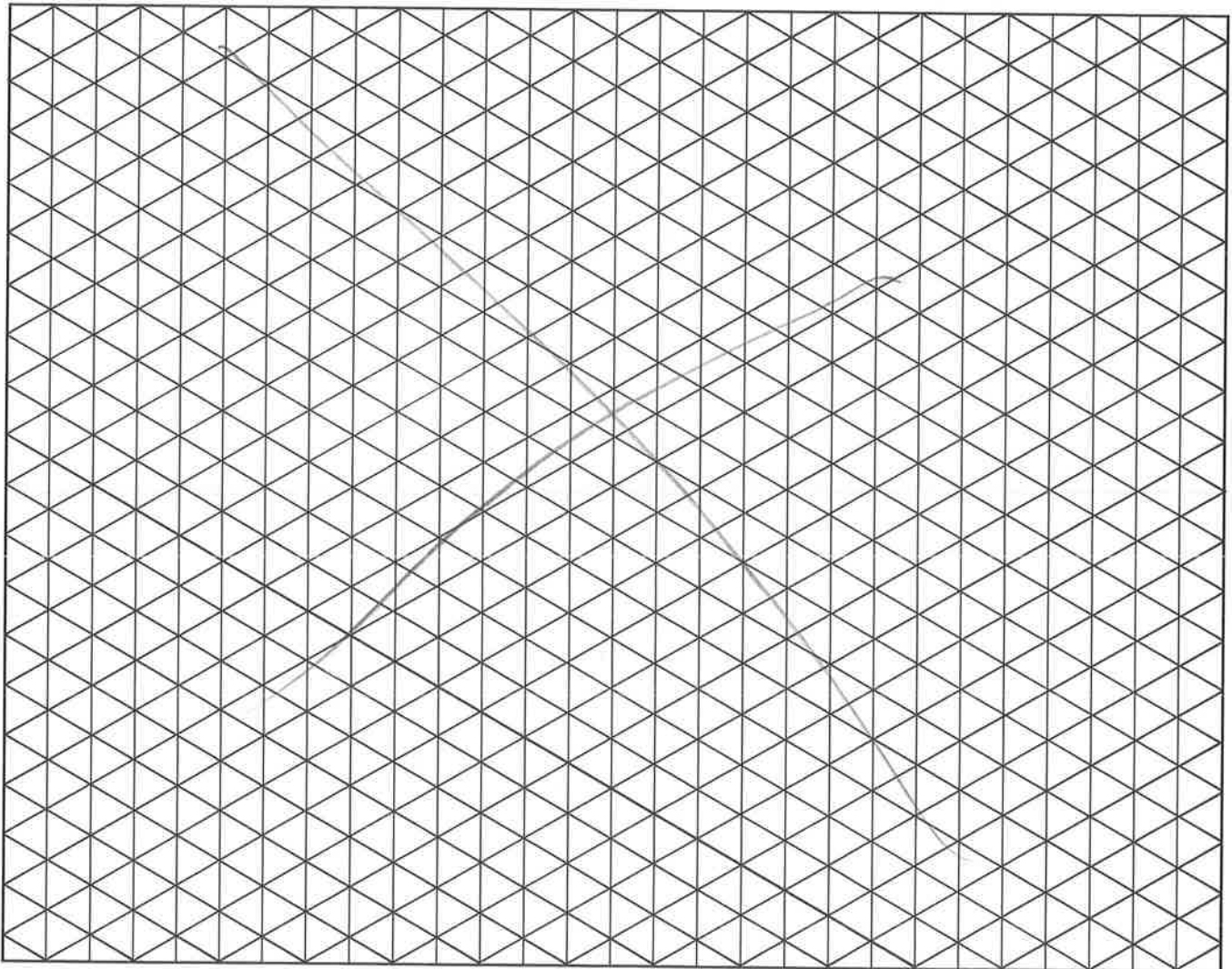
42. The primary purpose of a box joint is to make strong, yet decorative _____ 42. _____
43. Why are the projections and recesses of the second piece of a box joint offset the width of one segment?

44. Box joints are usually made using a fixture on the _____ 44. _____
_____.

Part XII—Summary

Don't do this one!

45. Design a simple storage box in which each corner is constructed with a different wood joint. Sketch an exploded view of the storage box in the space provided. Carefully sketch your design, and then identify the type of joint used.



Unit 14

FASTENERS, ADHESIVES, AND CLAMPING

Text Pages 125-136

Name _____

Date _____ Score _____

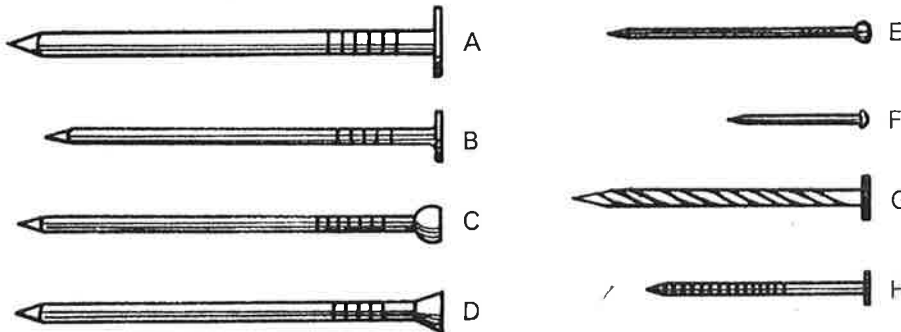
INSTRUCTIONS: Carefully read Unit 14 of the text and answer the following questions.

Part I—Nails

1. Most nails are made from _____ 1. _____
2. What are two reasons for coatings on nails?

3. Nail size is indicated with the letter _____ 3. _____
4. Nails range in size from _____ to _____. 4. _____
5. The _____ system is used to indicate the diameter of nails. 5. _____

6. Identify the nails shown in the following illustration. 6A. _____



- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____
- H. _____

7. _____ nails are finish nails that are smaller than 2d. 7. _____
8. Common and box nails are used for _____ and _____ construction. 8. _____
9. _____ nails can be used to fasten decorative plates around hinges and locks. 9. _____

Part II—Hammers

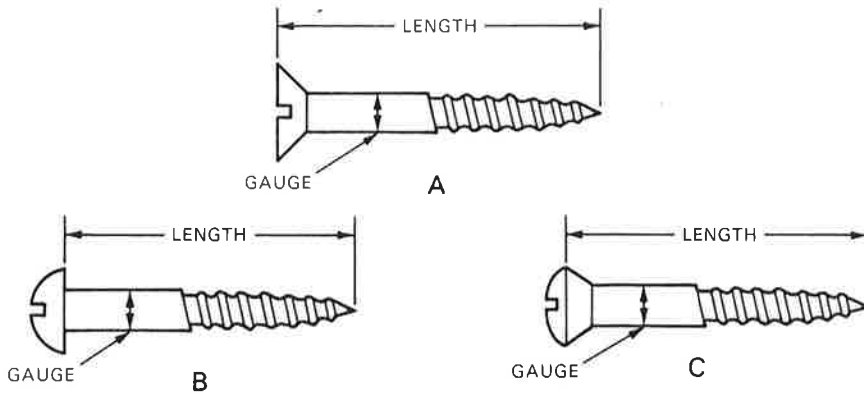
- 10. The size of a hammer is indicated by the weight of the _____.
- 11. _____ are used to set the heads of finish and casing nails below the surface of the stock.
- 12. Driving nails at an angle is generally referred to as _____.
- 13. Nails should be _____ to help prevent splitting the stock.
- 14. Bending the end of a nail to increase the strength of a joint is called _____.
- 15. When driving nails into hardwood, you should drill a small hole into the stock to prevent splitting the stock. True or False?
- 16. When driving a nail, you should keep your eyes on the _____, not the hammer head.
- 17. Small nails (8d or less) can be removed using a _____, while larger nails can be removed with a _____.
- 18. Large nails are often referred to as _____.

Part III—Screws

- 19. List three materials used to make screws.
- 20. List four materials used to coat screws.
- 21. Screw size is indicated by _____ and _____.
- 22. Screws range in length from _____ to _____ inches, and gauge size from _____ to _____.

Name _____

23. Identify the following types of screws.



23A. _____
B. _____
C. _____

24. The heads of _____ head screws are designed to fit flush with the surface.

24. _____

25. How is the length of a round head screw determined?

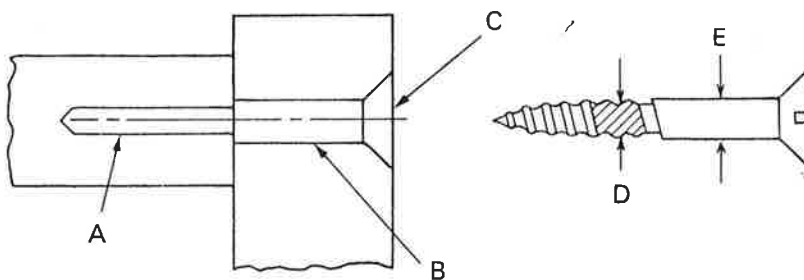
26. What are the two most common screw head recesses?

27. The tip of the screwdriver should fit the _____ and _____ of the screw slot.

27. _____

28. List two reasons why it is important for the screwdriver to fit the screw slot.

29. Identify the parts of the screw and screw holes shown in the following illustration.

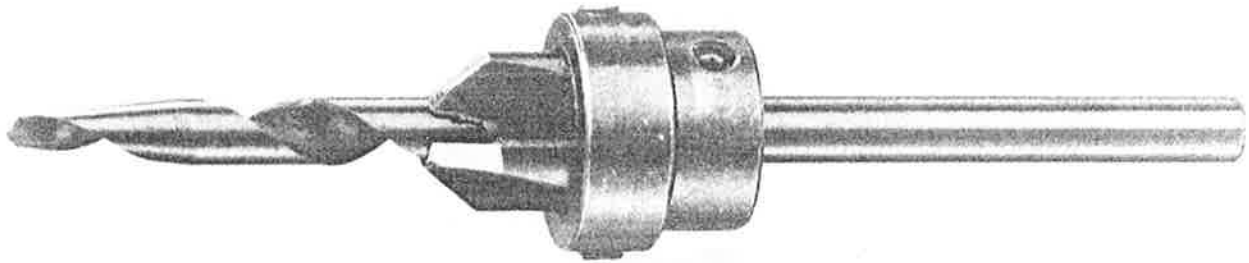


29A. _____
B. _____
C. _____
D. _____
E. _____

30. A No. 8 screw will require a clearance hole with a _____ inch diameter and a pilot hole with a _____ inch diameter.

30. _____

31. Describe the purpose of the following drill bit.



32. How are plugs made?

Part IV – Other Types of Fasteners

33. _____ are used to reinforce miter and end butt joints in softwood.

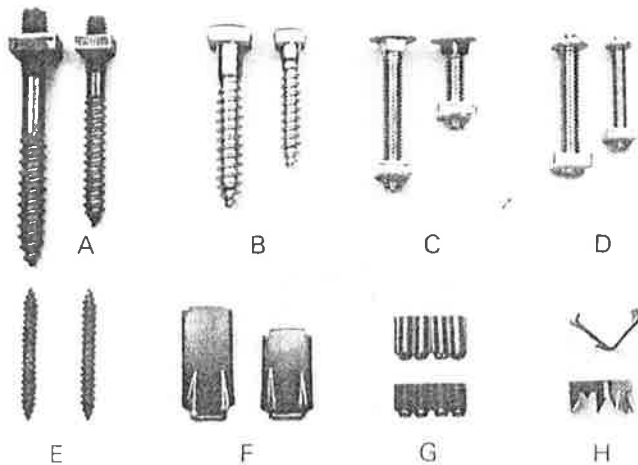
33. _____

34. _____ are used as a permanent means of fastening thin items to stock.

34. _____

35. Identify the fasteners shown in the following illustration.

35A. _____



B. _____

C. _____

D. _____

E. _____

F. _____

G. _____

H. _____

Part V – Staples

36. A staple is made by bending a piece of wire into a _____ shape. 36. _____
37. Staples do not provide as much holding power as tacks and small nails. True or False? 37. _____
38. Staplers used for heavy applications are usually air driven. True or False? 38. _____

Part VI – Nailers and Nailing

39. Nailers are most commonly used for _____ construction work. 39. _____
40. When a strip of nails is loaded into a nailer, the points should face downward. True or False? 40. _____

Part VII – Glue Blocks

41. List two reasons for using glue blocks.

42. What are two applications for glue blocks?

Part VIII – Wood Dowels

43. Dowels range in diameter from _____ to _____, and in _____ or _____ lengths. 43. _____

44. Short dowels specifically made for joinery have spiral grooves along their length. What is the purpose of the grooves?

Part IX—Feathers

45. What is the purpose of a feather?

46. How is a feather fastened into place?

Part X—Splines

47. How do feathers and splines differ?

Part XI—Biscuits

48. Another name for biscuits is _____.

48. _____

49. Biscuits are made from compressed _____ wood.

49. _____

50. What type of adhesive is used with biscuits?

Part XII—Adhesives

51. List four safety practices that should be observed when using adhesives.

52. _____ is used to bond paper, cardboard, and other porous materials.

52. _____

53. When using contact cement, it should be allowed to dry to a _____ appearance before bonding.

53. _____

54. How do you keep pieces of stock separated when using contact cement?

Name _____

55. What are two advantages of white liquid resin glue?

56. Excess white glue should be removed from a surface using a _____ before it has dried. 56. _____
57. White glue sets and dries in about _____ minutes. 57. _____
58. One of the oldest types of glues is _____ glue. 58. _____
59. Animal glue requires about _____ to _____ hours of clamping time at temperatures above _____ degrees Fahrenheit. 59. _____
60. When using plastic resin glue, the stock should be clamped for a minimum of _____ hours at a temperature of _____ degrees Fahrenheit. 60. _____
61. _____ glue is very popular with cabinet shops and furniture makers for applying veneers. 61. _____
62. Yellow glue sets in about _____ minutes at temperatures above _____ degrees Fahrenheit. 62. _____
63. _____ glue is made from milk curd. 63. _____
64. Epoxy cement is a _____-part adhesive that can include a filler. 64. _____
65. Various _____ can be added to the resin of epoxy cement to increase or decrease setting speed. 65. _____
66. Hot melt glue is excellent for _____ holding parts. 66. _____

Part XIII—Adhesive Application

67. Carefully checking the fit of all parts with the necessary clamping devices without using adhesive is called _____. 67. _____
68. Not enough adhesive in a joint will result in a _____ joint. 68. _____
69. Some adhesives should be closed with clamps from _____ to _____ minutes. 69. _____

Part XIV—Clamping Devices

70. A clamping device with two adjustable wood jaws is called a _____ or _____ clamp. 70. _____

71. _____ clamps are especially useful for holding small pieces in place. 71. _____
72. Miter clamps are useful for assembling _____ joints. 72. _____
73. List two applications for steel bar clamps.

74. Another name for steel bar clamps is _____ clamps. 74. _____
75. _____ clamps are used to hold round or irregular-shaped pieces in place. 75. _____
76. _____ clamps have an adjustable screw that holds the stock firmly against the anvil. 76. _____

Unit 15

SANDING

Text Pages 137-143

Name _____

Date _____ Score _____

INSTRUCTIONS: Carefully read Unit 15 of the text and answer the following questions.

Part I—Introduction

1. List four purposes of sanding.

Part II—Coated Abrasives

2. Coated abrasive sheets are commonly referred to as _____.

2. _____

3. Coated abrasive sheets are available in either _____ coat or _____ coat. This indicates what percentage of the backing is covered with the abrasive.

3. _____

4. Typical sheet size for coated abrasives is _____.

4. _____

5. The abrasive material, or grit, can be either _____ or _____.

5. _____

6. List the five most common abrasive materials.

6. _____

7. An orange-colored material that is excellent for finish sanding is _____.

7. _____

8. _____ is normally backed with a waterproof paper.

8. _____

9. A black, cloth-backed abrasive material commonly used for removing rust from machine surfaces is _____.
9. _____
10. List the two methods of indicating standard abrasive grit sizes.
- _____
- _____

Part III—Steel Wool

11. An abrasive material made of thin shavings of steel is called _____.
11. _____
12. Grades of steel wool range from very fine, such as _____, to coarse _____.
12. _____
- _____

Part IV—Polishing Compounds

13. Powdered abrasives are generally applied with a cloth pad and water or _____.
13. _____
14. _____ is a powdered abrasive that is derived from lava.
14. _____
15. _____ is a reddish-brown or gray powdered abrasive that is derived from shale.
15. _____

Part V—Hand Sanding

16. Final sanding is usually done by hand. It follows the use of cutting tools or a machine sander. True or False?
16. _____
17. Always sand _____ the grain of the stock.
17. _____

Part VI—Power Sanding Equipment

18. Disk sander size is indicated by the size of the _____.
18. _____
19. When using a disk sander, always make sure that the stock comes into contact with the sander while it is moving in a _____ direction.
19. _____
20. _____ sanders utilize a continuous belt of abrasive materials to smooth stock.
20. _____
21. Production wide belt sanders are used to smooth mill marks and other imperfections from the _____ of planed boards and panels.
21. _____

Name _____

22. The size of a wide belt sander is indicated by the _____ of the abrasive belt. 22. _____

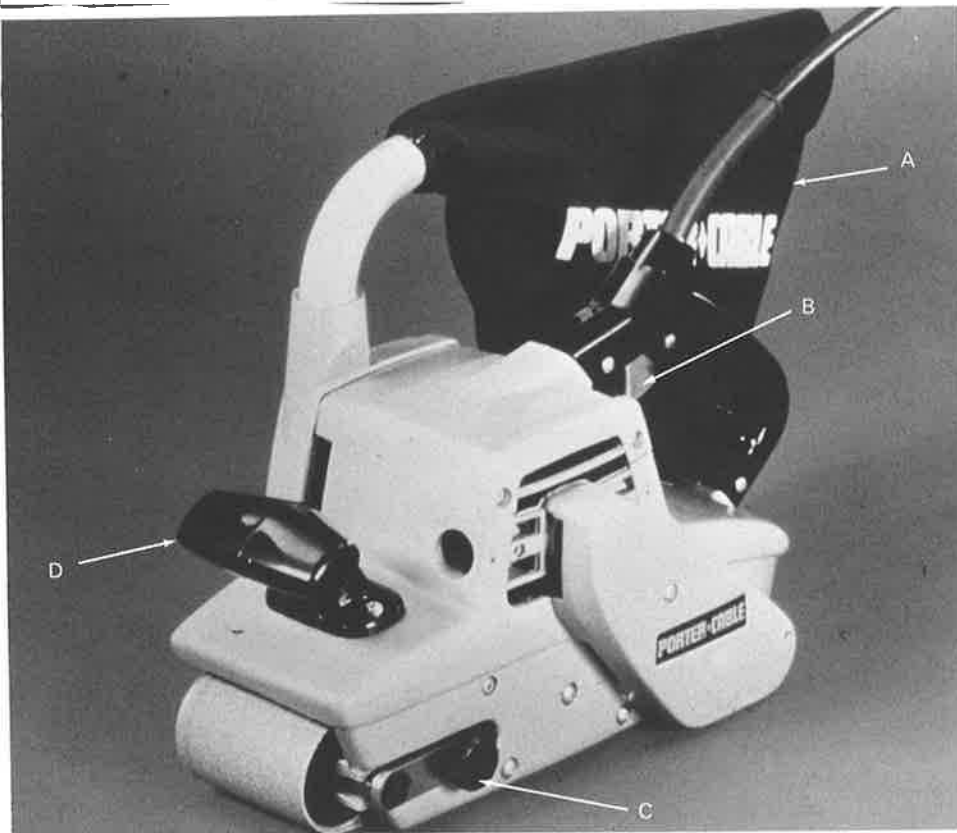
23. A size of a stationary belt sander is indicated by the width of the _____. 23. _____

24. Define the term "belt tracking."

25. How is the size of a portable belt sander indicated?

26. Identify the parts of the belt sander.

26A. _____
B. _____
C. _____
D. _____



27. Orbital sanders have a(n) _____ stroke. 27. _____

28. Most sanders are designed to use _____, _____, or _____ sheets of abrasive material. 28. _____

29. Why is it important to have your stock securely fastened in a vise before starting sanding operations? _____

30. It is not necessary to hand sand a product after being sanded with a finish sander. True or False?

30. _____

31. Drum sanders can be used with what three pieces of equipment?

31. _____
