

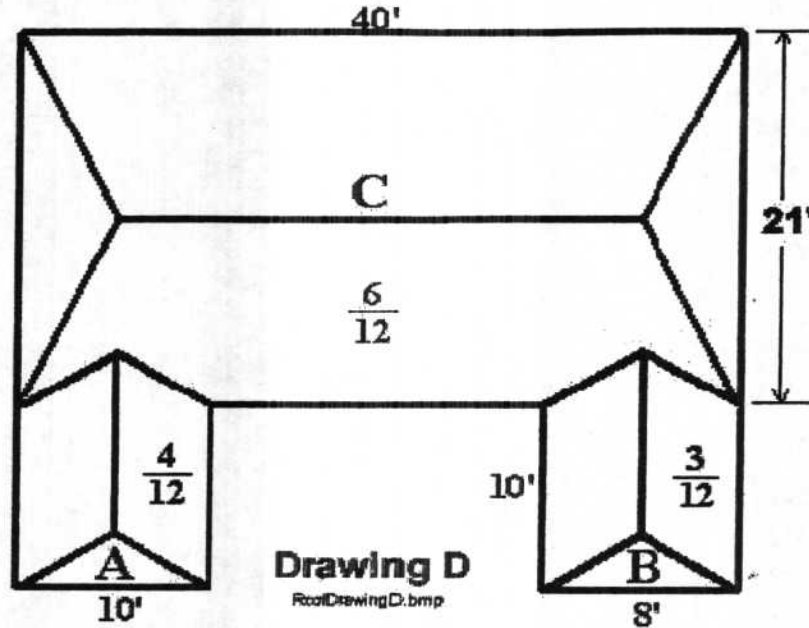
ROOFING STUDY GUIDE

ROOFING CONSTRUCTION AND ESTIMATING PRACTICE TEST

PRACTICE TEST ONE

Use this diagram to answer the following four questions.

Note: Wing A & B are HIP



1. How many feet of eave drip are there?
 - A. 80'
 - B. 62'
 - C. 142'
 - D. 162'

2. What is the rise for Wing A?
 - A. 2'
 - B. 1'
 - C. 20"
 - D. 40"

3. How many total feet of valley lining will be required with no overlap?
 - A. 12.47'
 - B. 21.63'
 - C. 6.23'
 - D. 9.168'

4. What is the rise for the main house?
 - A. 5'
 - B. 5.25'
 - C. 63"
 - D. B and C

5. The adjustable tool used to determine the slope of the roof is called a _____ .

- A. Level
- B. Ruler
- C. Squangle
- D. Square

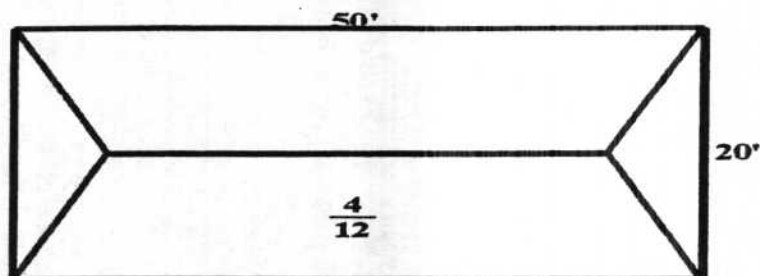
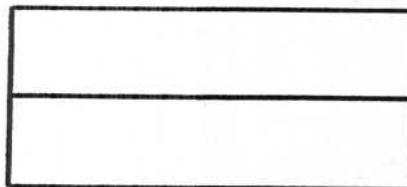
6. A rafter that extends perpendicularly from the top of an outside wall to the ridge board is called _____ .

- A. A valley rafter
- B. A ridge rafter
- C. A jack rafter
- D. A common rafter

7. What type of roof is pictured?

- A. Hip
- B. Flat
- C. Gable end
- D. All of these

7)



8. What is the length of the ridge above?

- A. 20'
- B. 30'
- C. 40'
- D. 50'

9. What is the length of one hip?

- A. 10'
- B. 20'
- C. 14.53'
- D. 10.54'

10. Total length of ridge and hips to be capped?

- A. 17'
- B. 88.12'
- C. 44.53'
- D. 90'

11. What is the net roof area?

- A. 1,000 square feet
- B. 1,054 square feet
- C. 1,453 square feet
- D. 1,600 square feet

12. When installing single coverage mineral surfaced roll roofing parallel to the eaves, it requires a minimum slope of _____ for exposed nail method.

- A. 4/12
- B. 3/12
- C. 2/12
- D. 1/12

13. Asphalt shingles should never be used on a roof with a slope of less than _____ .

- A. 5 in. 12
- B. 4 in. 12
- C. 3 in. 12
- D. 2 in. 12

14. _____ are the most vulnerable area of shingle and shake roofs and should receive the most care and best materials.

- A. Hips
- B. Valleys
- C. Ridges
- D. Eaves

15. When applying the first row of shakes on top of the starter shakes, select only shakes that will permit you to offset the joints of the starter at least _____ inch(es).

- A. 1
- B. 1-1/4
- C. 1-1/2
- D. 1-3/4

ANSWERS TO PRACTICE TEST ONE

- | | | | | |
|------|------|------|-------|-------|
| 1. D | 4. D | 7. C | 10. B | 13. D |
| 2. C | 5. C | 8. B | 11. B | 14. B |
| 3. B | 6. D | 9. C | 12. C | 15. C |

PRACTICE TEST TWO

1. The most widely used type of asphalt shingle is _____ .
 - A. Two tab strip
 - B. Three tab strip
 - C. Individual American
 - D. Two tab hexagonal
2. When installing hip and ridge tiles, the tiles should be lapped at least _____ inches.
 - A. 1-1/2
 - B. 2
 - C. 2-1/2
 - D. 3
3. Special Kraft-faced fiberglass batts come in two thicknesses and are _____ wide and _____ long.
 - A. 12" — 24"
 - B. 24" — 36"
 - C. 30" — 40"
 - D. 24" — 48"
4. Most leaks occur around vents in about every type of roof, usually because of _____ .
 - A. Inadequate shingling around flashing.
 - B. Improper flashing.
 - C. Vent flashing not as wide as it should be.
 - D. All of the above.
5. Placing nails in an area to be covered by mineral surfaced roll roofing is _____ nailing.
 - A. Laced
 - B. Counter
 - C. Face
 - D. Blind
6. The roof should be loaded by stacking the shingles _____ .
 - A. Along the edge.
 - B. Along the east side.
 - C. Along both sides
 - D. Along any horizontal space
7. At least a _____ gauge metal should be used for drainage systems.
 - A. 26
 - B. 28
 - C. 24
 - D. 30

8. According to (RC&E) Roofing Construction & Estimating, persons won't succeed as a roofing contractor if _____.

- A. They can't estimate the labor and material quantities required.
- B. Their employees are not sincere or hard-working.
- C. They don't use top-of-the-line materials.
- D. You don't get all your materials at cost.

9. Normally _____ shingle roofs are the maximum allowed on any structure.

- A. One
- B. Two
- C. Three
- D. Four

10. _____ is one of the least expensive metal valley flashing materials and, therefore, the most often used.

- A. Aluminum
- B. Copper
- C. Zinc
- D. Tin

11. Can you re-roof a home with wood shingles over wood shingles?

- A. No
- B. Yes
- C. In all areas except wet climates
- D. In Southern states only

12. When shingling has been finished on a closed-cut valley, shingles should be trimmed back from the center of the valley _____ inches.

- A. 2
- B. 3
- C. 3-1/2
- D. 4

13. A full lace valley can be used on roofs that have a slope of _____ or steeper.

- A. 2 in. 12
- B. 3 in. 1;
- C. 4 12
- D. 5 in. 12

14. On roofs that slope more than 1/2" . 12, seal the joints of flat seams of most metals with _____ .

- A. Solder.
- B. Spiral bending.
- C. Caulking compound.
- D. Folding and nailing.

15. A successful tie-in using the racking method requires two vertical chalk lines _____ inches apart.

- A. 4
- B. 6
- C. 10
- D. 12

16. When applying roll roofing using the concealed-nail method, _____ inch strips of asphalt material should be installed along the down slope perimeter roof edges and rakes.

- A. 4"
- B. 9"
- C. 12"
- D. 18"

ANSWERS TO PRACTICE TEST TWO

- | | | | |
|------|------|-------|-------|
| 1. B | 5. D | 9. C | 13. B |
| 2. B | 6. C | 10. A | 14. C |
| 3. D | 7. B | 11. B | 15. B |
| 4. A | 8. A | 12. A | 16. B |

PRACTICE TEST THREE

1. According to (RC&E) Roofing Construction & Estimating, when applying shakes with a 10-inch exposure, nails should be driven about _____ inches from the bottom edge.

- A. 7-1/2
- B. 10
- C. 12
- D. 14

2. Wood shingles or shakes shall be lapped at least _____ inches over each side of the valley flashing.

- A. 2-4"
- B. 5-6"
- C. 7"
- D. 8"

3. According to (RC&E) Roofing Construction & Estimating, ridge caps over standing seam roofs are often installed over _____ wood battens spaced to provide ridge venting.

- A. 1 by 2
- B. 2 by 3
- C. 2 by 2
- D. 2 by 4

4. According to (RC&E) Roofing Construction & Estimating, gravel aggregate used for roofing purposes should be a maximum of _____ inch in diameter.

- A. 1/2
- B. 1/8
- C. 3/16
- D. 1/4

5. Trimming 1 to 2 inches from the upper corner of the last shingle in each course of an open valley is called _____.

- A. Skimping.
- B. Chalking.
- C. Dubbing.
- D. Sizing.

6. On new shingle roofs over 1/2" plywood, use nails _____ inch(es) long.

- A. 1
- B. 1-1/4
- C. 1-1/2
- D. 1-3/4

7. On wood shingles with a 5-inch exposure, nail about _____ inches from the bottom edge of the shingle.

- A. 2
- B. 5
- C. 7
- D. 10

8. When nailing wood shingles or shakes that are 8" or wider nails should be kept _____ inches from edge of shingle.

- A. 2-3"
- B. 3-4"
- C. 3/4- 1"
- D. 1 1/2 - 2"

9. When repairing splits, blisters, alligatoring and fish mouths, the patch should be _____ inches wider than the area you are repairing.

- A. 2
- B. 4
- C. 6
- D. 7

10. If a metal saddle flashing is not available when flashing a chimney, the roofer should build a _____.
- A. Flue cap.
 - B. Block o
 - C. Wooder
 - D. Step flashing.
11. Ribbon courses are sometimes called _____ courses and must be removed if re-roofing with asphalt shingles.
- A. Six
 - B. Double
 - C. Stair-step
 - D. Shadow
12. A double layer of shingles used for visual distinction is _____.
- A. Ribbon course.
 - B. Laced.
 - C. Double coursed.
 - D. Stair-step.
13. Fire retardant shakes must be installed over a solid deck of _____ inch thick minimum plywood or equivalent materials to earn a class "B" fire rating.
- A. 3/4
 - B. 1/3
 - C. 1/8
 - D. 1/2
14. 18" by 3/4" to 1-1/4" hand split and re-sawn shakes with a 7-1/2" weather exposure have a _____ square foot coverage per square of shakes.
- A. 60
 - B. 65
 - C. 70
 - D. 75
15. Given: 24" by 3/4" to 1-1/4" hand split and re-sawn shakes and 7-1/2" weather exposure. One square of shakes will cover _____ square feet.
- A. 60
 - B. 65
 - C. 70
 - D. 75

ANSWERS TO PRACTICE TEST THREE

- | | | | | |
|------|------|------|-------|-------|
| 1. C | 4. A | 7. C | 10. C | 13. D |
| 2. C | 5. C | 8. C | 11. D | 14. D |
| 3. C | 6. B | 9. C | 12. A | 15. D |

PRACTICE TEST FOUR

1. The average R1 crew, consisting of one roofer and one laborer should be able to install one square of field tile at a rate of _____ .
 - A. 2 to 3 hours
 - B. 3 to 4 hours
 - C. 3 to 4 man hours
 - D. 4 to 5 man hours

2. 24" wood shakes applied on 4:12 sloped roofs or 2 ply roof applications are recommended to be installed with a maximum weather exposure of _____ .
 - A. 6"
 - B. 7 1/2"
 - C. 8 1/2"
 - D. 10"

3. A swept eave is an eave which is _____ .
 - A. broomed at completion, removing the excess granules
 - B. created when 2 different roof pitches meet, 2:12 and 4:12
 - C. placed below the flashing at a cricket, vent or chimney
 - D. gradually curved at the overhang in a concave shape

4. The term given to a shingle with a double layer of tabs, which is used for visual distinction is called a _____ .
 - A. laminated shingle
 - B. 3 dimensional shingle
 - C. dimensional shingle
 - D. all of the above

5. The base flashing on the down slope face of a fireplace or chimney should extend out onto the shingles at least _____ inches and up the face of the chimney at least _____ inches.
 - A. 3, 6
 - B. 4, 12
 - C. 5, 10
 - D. 6, 12

6. A serrated wood shingle pattern is one that _____ .
 - A. has the butts of the shingles staggered
 - B. is split at the butts prior to installation
 - C. has spacing of 1" or more between adjacent shingles
 - D. none of the above

7. An R1 crew consisting of one roofer and one laborer should lay one square of wood shingles on a roof in _____ hours.

- A. 1-1/2
- B. 1-3/4
- C. 2
- D. 2-3/4

8. Nails used to apply asphalt shingles over old asphalt shingles should be _____.

- A. 1" long
- B. 1-1/2" long
- C. 1-1/2" to 2" long
- D. over 2 long

9. A crew consisting of one roofer and one laborer should lay two square of roof slate on an average roof in _____.

- A. 11 to 12 hours
- B. 12 to 13 hours
- C. 13 to 15 hours
- D. 22 to 23 hours

10. What type of valley is recommended for T-locks and mineral-surfaced roll roofing?

- A. Open
- B. Full face woven
- C. W-Type metal
- D. 4-ply felt method

11. The end lap requirement for 15 # single coverage saturated felt would be _____ inches.

- A. 2
- B. 4
- C. 6
- D. 12

12. The correct method of framing an overhang along the rake is _____.

- A. allowing the plywood to run out and attach a fly rafter
- B. allowing the plywood to run out and support at 6' O.C.
- C. to construct a ladder of "look outs" to support the rake
- D. to double the fascia board, increasing the rigidity

13. An A.P.A. rated sheathing is used on a roof job. The sheathing has a panel span rating of 32/16, the sheathing is unblocked. The maximum span of the supports will be _____ inches.

- A. 16
- B. 24
- C. 28
- D. 32

14. A factory square is _____.

- A. 100 square feet of felt
- B. 100 square feet of roofing
- C. 100 square feet of area
- D. 108 square feet of saturated felt

15. Double coverage, mineral-surfaced rolled roofing shall be placed on a roof having a slope of _____ or steeper.

- A. 1/2:12
- B. 1:12
- C. 2:12
- D. 3:12

16. To bear a UL "wind resistant" label, a shingle must withstand winds up to _____ M.P.H. for two hours without a single tab lifted.

- A. 60
- B. 63
- C. 70
- D. 75

17. A wood shingle that measures over 8" in width should be _____.

- A. set aside and not used
- B. split into smaller pieces
- C. applied in the first row
- D. saved for the cap

18. To allow for expansion when wet, wood shingles should be spaced _____ inches apart.

- A. 1/4 to 3/8
- B. 3/8 to 1/2
- C. 3/8 to 5/8
- D. 1/2 to 3/4

19. When double-coverage mineral-surfaced rolled roofing is installed, the roofing cement that is used on the 19" selvage strip should be applied at a rate of _____ gallons per 10 square.

- A. 1 1/2
- B. 3
- C. 11.2
- D. 15

20. When installing wood shakes on a new roof, the 24" tapersplit pieces would be attached by _____ type nails.

- A. 3d common
- B. 4d box
- C. 5d box
- D. 5d common

21. A contractor is to install a cricket flashing at a chimney. The contractor is to install wood shakes on the job. The minimum distance the flashing should extend under the shake is _____ inches.

- A. 6
- B. 3
- C. 11.2
- D. 15

22. Hot roofing is responsible for at least _____ percent of all roofing injuries.

- A. 10
- B. 13
- C. 23
- D. 32

ANSWERS TO PRACTICE TEST FOUR

- | | | | | | | | |
|------|------|------|-------|-------|-------|-------|-------|
| 1. C | 4. D | 7. D | 10. A | 13. C | 16. B | 19. D | 22. C |
| 2. D | 5. B | 8. C | 11. B | 14. D | 17. B | 20. C | |
| 3. D | 6. A | 9. D | 12. C | 15. B | 18. A | 21. C | |

EXPLANATIONS OF ANSWERS

Practice Test 1

1. Ans D. Run is' the span, Rise = Slope x Run.
Back = 40'. Front = 40'. Sides (2) = 62'. Insides
Wings A & B = 20'. Total = 162'.
2. Ans C. pg 11 Rise = Run x Slope. $4'' \times 5' = 20''$
3. Ans B. Table Appendix B, Pg 429. Wing A: V=
Factor x Run. Roof V= $1.247 \times 5' \times 2(\text{valleys}) =$
12.47. Wing B: V= $1.146 \times 4' \times 2(\text{valleys}) = 9.168'$.
Total = $12.47 + 9.168 = 21.63'$.
4. Ans D. Equation, Pg 11. Rise = Slope x Run.
Rise = $6/12 \times 10.5' = 5.25'$. $5.25' \times 12''/\text{ft} = 63''$.
5. Ans C. (RC&E) pg. 12, Fig: 1-13. Page 13.
6. Ans D Page 13.
7. Ans C. Figure 1-8, Pg 10.
8. Ans B. (RC&E) Ridge on hip roof = length –
width $50' - 20' = 30'$ This is because hips are on a
 45° angle
9. Ans C. (RC&E) Hips = Run x Factor For a 4/12
factor on page 428 Column 3 = 1.453 Hips = $10' \times$
1.453 or 14.53
10. Ans B. (RC&E) All Four = Total Span Both
Ends $40 \times 1.453 = 58.12$ (hips) + 30' (ridge) = 88.12
11. Ans B. (RC&E) Flat Area X Factor $20 \times 50 = 8.$
 $1,000 \times 1.054 \text{ sq. ft.} = 1,054 \text{ 9.}$
12. Ans C. (RC&E) Chart pg. 131-157
13. Ans D. (RC&E) pg. 38 & pg. 76
14. Ans B.(RC&E) Index: Leaks Subject Topic:
Valleys pg 383
15. Ans C. (RC&E) Index: Shakes Subject topic:
Spacing pg 164-165

Practice Test 2

1. Ans B. Pg. 78 Index Asphalt shingles Chapter 4
2. Ans B. pg. 212. Index Hip unit See Tile roofing
211-213, 226,228 Chapter 7
3. Ans D. pg. 350 Sub.-Insulation Topic: Batts
Chapter 12
4. Ans A. Pg 384 Subject Leak TOP: Flashing-
Chapter 13.
5. Ans D. Pg 137 Index Blind Nail Method Look up
answers. Chapter 5
6. Ans C. Pg 32. Sub: Loading roof T.O.C. CH.2
OR Index loads uneven. Chapter 2
7. Ans B. pg 407 Ind. Drainage T.O.C. Gutters &
Down spouts. Chapter13

8. Ans A. pg 5
9. Ans C. pg.394 T.O.C. Roof repair maintenance
Re-roof or Ind. Re-roof. Chapter 13
10. Ans A. Pg 65 Chapter 3
11. Ans B. Pg 400 Re-Roofing Chapter 13
12. Ans A. pg 90 Index Valley closed 65, 67 89-92.
13. Ans B. pg 92 Chapter 4
14. Ans C. pg 265 Chapter 9
15. Ans B. Racking pg 86
16. Ans B. (RCE). Roll roofing, Pg 138. Chapter 5

Practice Test 3

1. Ans C. pg.164-174 Installation Note $10'' + 2'' =$
 $12''$.
2. Ans C. pg 166 Chapter 6
3. Ans C. pg 260 Index: Ridge caps Chapter 9
4. Ans A. pg 307 Chapter 10
5. Ans C. pg 89 Dubbing Chapter 4
6. Ans B. 106 Chapter 4
7. Ans C. pg 167, Add $11/2 - 2''$ to the exposure.
8. Ans. C 167 Chapter 6
9. Ans C. pg 330 Repairing = Built up roof
NOTE: Blister = built of roof + Chapter 10
10. Ans C. pg. 96 Chapter 4
10. Ans C. pg 96 Chapter 4
11. Ans D. pg 124 Chapter 4
12. Ans A. pg. 124 Chapter 4
13. Ans D. pg 159 Chapter 6
14. Ans D. pg 175 Chapter 6
15. Ans D. pg 175 Chapter 6

Practice Test 4

1. Ans C. Estimating Tile Roofing pg 229 Chapter 7
2. Ans D. (RCE) TOC: Chapter 6, Installing wood
shingles & shakes, Pg 164. See shake exposures,
Pg 165. Also Figure 6-23, Pg 175. See notes b & c.
3. Ans D. pg 171,172 Figure 6-18
4. Ans D. pg 78 Chapter 4
5. Ans B. pg 97. Figure 4-53, 4-54 Chapter 4
6. Ans A. Staggered Patterns, pg 185. Every other
shingle up or down (butts staggered).
7. Ans D. pg 196 Estimating Wood Shingles
8. Ans C. (RCE) TOC: Asphalt shingles, Fasteners,
Pg 106. See table in figure 4-78, recommended

nail lengths.

9. Ans D. pg 254 Chapter 8
10. Ans A. (RCE) TOC: Chapter 3, Valley flashing, Pg 64.
11. Ans B. pg 46 Chapter 3
12. Ans C. pg 23, 24 Chapter 1
13. Ans C. pg 28, Table 21 also see Table 22.
14. Ans D. pg 36, Figure 3-1, Footnote. Chapter 3
15. Ans B. pg 38, 39 Figure 3-3, see Footnotes.
16. Ans B. pg 75. Chapter 4
17. Ans B. pg 165. Chapter 5
18. Ans A. pg 165 Chapter 6
19. Ans D. pg 140 1.5 per 100 SF $1.5 \times 10 = 15$
20. Ans C. pg 167, Figure 6-10 Chapter 6
21. Ans C. (RCE) pg 168 Chapter 6.
22. Ans C. (RCE) Ind: Injuries, roofing, Pg 334.