EXAM

Course 18179
Dwelling Contractor Qualifier
Continuing Education Course

Deck Code Changes- Part 1 and 2

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We would like to thank you for ordering our Deck Code Changes Part 1 & 2 course (18179-12 hours of Continuing Education).

This Deck Code Changes- Part 1 and 2 course is designed to familiarize Contractors and Inspectors with the amendments to the deck codes required for building and remodeling decks, according to the Uniform Dwelling Code (UDC).

Topics covered in this course include General Requirements, Footings and Post Connections, Posts and Post-to-Beam Connections, Beams, Joists, and Joist-to-Beam Connections, Joist Hangers, Ledger Attachments, Ledger-Board Fasteners, Free Standing Decks, Lateral Support, Decking, Guard and Post, Stairs, Framing Plan and Appendix C and Attachment of Residential Deck Ledger to Metal Plate Connected Wood Truss Floor System.

Materials included

1. REVIEW MATERIALS
2. EXAM
3. Answer Sheet

Once you complete the course

Return the bubble answer sheets to our company.

Fax: (608) 571-0096
E-mail: **michael@uscontractorlicense.com**
US Mail: Above address

We will grade your exam and notify you of the results and will notify the State of Wisconsin of your successful completion of the course.

The State of Wisconsin requires that you attain a passing score of 70%. In the event that you did not attain the required score we will notify you of the incorrect answers. You will need to retake only the incorrect questions and resubmit them to us for grading purposes.

After you are notified that you passed the course

Once you complete the course, we will notify the Dept. of Safety & Professional Services of your successful completion. They will send you a renewal reminder prior to the expiration of your certification/registration or license. If you are notified that you can renew online, click on this link; https://dsps.wi.gov/Pages/SelfService/ElectronicPayments.aspx

If you did not receive the renewal reminder or obtained your continuing education after the expiration date; contact the Dept. of Safety & Professional Services by e-mail: DspsSbCredentialing@wi.gov or call them at 608-266-2112 to request the renewal requirements.

Please feel free to contact us with any questions and/or suggestions on improving this course or future educational courses you would like to see us offer.

Thank you for your business!

Deck Code Changes – Part 1 and 2

Amendments to the Deck Code

1. A deck that complies with the standards in ch. _____, if applicable, shall be considered as complying with sub. (1).

a. SPS 325 Appendix B
b. SPS 325 Appendix C
c. CFR Title 40
d. Both a and b

2. In the Amendments to the Deck Code, handrail requirements are covered under:

a. SPS 321.04
b. SPS 321.14
c. SPS 321.10
d. SPS 321.02

3. In the Amendments to the Deck Code, excavation requirements are covered under:

a. SPS 321.04
b. SPS 321.14
c. SPS 321.10
d. SPS 321.02

4. In the Amendments to the Deck Code, footing requirements are covered under:

a. SPS 321.04
b. SPS 321.15 (2) (f)
c. SPS 321.14
d. SPS 321.16

5. In the Amendments to the Deck Code, frost penetration requirements are covered under:

a. SPS 321.04
b. SPS 321.10
c. SPS 321.14
d. SPS 321.16

6. In the Amendments to the Deck Code, decay protection requirements are covered under:

a. SPS 321.10
b. SPS 321.02
c. SPS 321.14
d. SPS 321.04

7. In the Amendments to the Deck Code, load requirements are covered under:

a. SPS 321.04
b. SPS 321.15 (2) (f)
c. SPS 321.02
d. SPS 321.16

8. Along the bottom of door openings that are elevated _____.
Note: Flashing placed along the bottom of a door opening that is elevated _____ can subsequently accommodate adding a deck outside the door.

a. below-grade
b. above-grade
c. at-grade
d. Any of the above

Chapters SPS 320 to 325 – Appendix B

Section 1: General Requirements

9. Using the Deck Anatomy graph from the reference materials; the letter D in the Legend represents:

a. Decking
b. Drop Beam
c. Blocking
d. Ledger Board

10. Using the Deck Anatomy graph from the reference materials; the letter M in the Legend represents:

a. 2x2 Baluster
b. 4x4 Rail Post
c. Post Base Connector
d. ½" Lag Bolt with Washers

11. Using the Deck Anatomy graph from the reference materials; the letter A in the Legend represents:

a. Concrete Pier
b. Drop Beam
c. Frost Footing
d. Post Base Connector

12. Using the Deck Anatomy graph from the reference materials; the letter P in the Legend represents:

a. Rail Top Cap
b. Guard Rail
c. Decking
d. 4x4 Rail Post

13. Using the Deck Anatomy graph from the reference materials; the letter K in the Legend represents:

a. Flashing
b. Rim Joist
c. Ledger Board
d. Decking

14. Using the Deck Anatomy graph from the reference materials; the letter B in the Legend represents:

a. 4x4 Rail Post
b. Concrete Pier
c. Ledger Board
d. 2x2 Baluster

15. Using the Deck Anatomy graph from the reference materials; the letter O in the Legend represents:

a. Blocking
b. Rail Top Cap
c. Guard Rail
d. Decking

16. Using the Deck Anatomy graph from the reference materials; the letter G in the Legend represents:

a. Frost Footing
b. Blocking
c. Ledger Board
d. ½ " Lag Bolt w/ washers

17. Using the Deck Anatomy graph from the reference materials; the letter C in the Legend represents:

a. Post Base Connector
b. Flashing
c. Existing House Floor
d. Joist

18. Using the Deck Anatomy graph from the reference materials; the letter N in the Legend represents:

a. Guard Rail
b. Rail Top Cap
c. 4x4 Rail Post
d. 2x2 Baluster

19. Using the Deck Anatomy graph from the reference materials; the letter E in the Legend represents:

a. Existing House Floor
b. Flashing
c. Ledger Board
d. 1/2 " Lag Board w/Washer

20. Using the Deck Anatomy graph from the reference materials; the letter L in the Legend represents:

a. Joist
b. Rim Joist
c. Blocking
d. Decking

21. Using the Deck Anatomy graph from the reference materials; the letter F in the Legend represents:

a. Flashing
b. Existing House Floor
c. Ledger Board
d. ½" Lag Bolt w/Washer

22. Using the Deck Anatomy graph from the reference materials; the letter J in the Legend represents:

a. Blocking
b. Rim Joist
c. Post Base Connector
d. Joist

23. Using the Deck Anatomy graph from the reference materials; the letter H in the Legend represents:

a. Flashing
b. Existing House Floor
c. Ledger Board
d. Decking

24. Using the Deck Anatomy graph from the reference materials; the letter I in the Legend represents:

a. Joist
b. Blocking
c. Ledger Board
d. Drop Beam

25. All lumber, including for decking, must be pressure−preservative−treated and must be either _____, hemlock/fir, _____or, _____of grade #2 or better – unless a naturally durable species such as a western red cedar is used.

a. douglas fir/larch
b. spruce/pine/fir (SPF),
c. southern pine
d. All of the above

26. Lumber in contact with the ground must be rated as "ground−contact."

a. True
b. False

27. The lumber must be identified by the grade mark of, or certificate of inspection issued by, a professional lumber-grading or inspection bureau or agency (www.alsc.org).

Note: Not all treated lumber is rated for ground contact. See Table C−1 in Appendix C for further information.

a. True
b. False

28. Wood−plastic composites must bear a label indicating their performance criteria and compliance with ASTM D7032.

Note: Wood−plastic composites are materials composed of _____ or _____ that is bound with plastic and used typically as decking and elements of a guard or handrail.

a. wood fibers
b. powder
c. sand
d. Both a. and b.

29. All fasteners must be _____ or_____.

a. galvanized steel
b. stainless steel
c. approved for use with preservative −treated lumber
d. All of the above

30. Note: When using a wood−plastic composite, no caution is needed as all composite members have the same capabilities as their equivalent wood sizes.

a. True
b. False

31. Every deck must have an electrical outlet along the perimeter of the deck and _____ of the floor in accordance with NEC section 210.52(E)(3).

a. within 6.5 feet
b. within 7 feet
c. within 7.5 feet
d. within 8 feet

32. A deck constructed in accordance with these standards is not approved for concentrated loads that exceed _____ such as from privacy screens, planters, built−in seating, hot tubs, stairs for multiple− level decks, or from snow−drift loads or sliding−snow loads. Engineering analysis is needed for these loads.

a. 25 pounds per square foot (psf),
b. 30 pounds per square foot (psf),
c. 35 pounds per square foot (psf),
d. 40 pounds per square foot (psf)

33. Nails must be threaded, which includes ring−shanked (annular−grooved) and spiral−grooved.
Note: A 1/8 inch pilot hole is recommended for all toe−nailing locations.

a. True
b. False

34. Hardware, including joist hangers or post anchors, must be galvanized steel with _____, or stainless steel. All fasteners that are used with any hardware must be the same material as the hardware. All hardware must be installed in accordance with any instructions from the manufacturer.
Note: For galvanized steel, look for product lines such as "Zmax," "Triple Zinc," or "Gold Coat."

a. 1.65 ounces of zinc per square foot (G−15 coating)
b. 1.75 ounces of zinc per square foot (G−175 coating)
c. 1.85 ounces of zinc per square foot (G−185 coating)
d. None of the above

35. Carriage−bolts are not to be substituted where through−bolts are specified, if carriage−bolt washers are installed at the bolt head.
Note: Carriage−bolt washers have oval holes.

a. True
b. False

36. Specifications for fasteners and hardware. All nails must meet the requirements of _____.

a. ASTM A653
b. ASTM F1667
c. ASTM B695
d. ASTM A123

37. Wood screws must meet the requirements of _____.

a. ANSI/ASME B18.6.2
b. ANSI/ASME B18.6.3
c. ANSI/ASME B18.6.1
d. ANSI/ASME B18.2.1

38. Safety glazing at decks shall be in accordance with the safety glazing requirements of the Uniform Dwelling Code (UDC).

a. True
b. False

39. Bolts and lag screws must meet the requirements of ANSI/ ASME B18.2.1.

a. ANSI/ASME B18.2.2
b. ANSI/ASME B18.2.3
c. ANSI/ASME B18.6.1
d. ANSI/ASME B18.2.1

40. Throughout this document, _____bolts and lag screws are specified for various connections.

a. 1/2 inch−diameter
b. 3/8 inch−diameter
c. 3/4 inch−diameter
d. 1/4 inch−diameter

41. Note: Galvanized steel is not compatible with stainless steel, which can result in rapid corrosion and structural failure.

a. True
b. False

42. Fasteners other than nails and timber rivets may consist of mechanically deposited zinc−coated steel with coating weights in accordance with _____, Class 55, minimum.

a. ASTM A653
b. ASTM F1667
c. ASTM B695
d. ASTM A123

43. Note: Hardware and fasteners that are beneath a _____ which uses salt−water disinfection should be stainless steel, grade 304 or 316.

a. hot tub
b. patio pond
c. Both a. and b.
d. None of the above

44. Fasteners to be hot−dipped galvanized must meet the requirements of _____, *Standard Specification for Zinc Coating (Hot−Dip) on Iron and Steel Hardware,* Class D for fasteners 3/8" diameter and smaller or Class C for fasteners with diameters over 3/8".

a. ASTM A653
b. ASTM A153
c. ASTM B695
d. ASTM A123

45. Hardware to be hot−dipped prior to fabrication must meet ANSI/ASME B18.2.3, Standard Specification for Steel Sheet, Zinc−Coated (Galvanized) or Zinc−Iron Alloy−Coated (Galvannealed) by the Hot−Dip Process, Z-C 199 coating.

a. True
b. False

46. Hardware to be cold−dipped galvanized after fabrication must meet ANSI/ASME B18.2.2, *Specification for Zinc (Cold−Dip Galvanized) Coatings on Iron and Steel Products.*

a. True
b. False

Section 2: Footings, and Post Connections

47. Construction of footings over utility lines or any service pipe is prohibited.
Note: Call the utility provider before digging.

a. True
b. False

48. Concrete must be used and must have a minimum compressive strength of _____.

a. 2,000 pounds per square inch
b. 3,000 pounds per square inch
c. 2,000 pounds per square foot
d. 3,000 pounds per square foot

49. Footings must bear on solid ground below the frost penetration level or at least _____ below finished grade, whichever is deeper.

a. 24 inches
b. 36 inches
c. 42 inches
d. 48 inches

50. Footing size and thickness _____ in accordance with Table 1.

a. can be
b. should be
c. must be
d. None of the above

51. If the edge of a deck footing is closer than 5 feet to an existing house wall, the footing must bear at the same elevation as the existing footing for that wall.

a. True
b. False

52. Post anchors must include a _____ base plate.

a. 1-inch-minimum
b. 1-inch-maximum
c. ½-inch-minimum
d. ½-inch-maximum

53. Each post _____ bear directly over the _____ one−third of a footing.

a. can / corner
b. must / middle
c. can / middle
d. must / corner

54. Footings must bear on solid ground below the frost penetration level or at least 48 inches below finished grade, whichever is deeper. Bearing onto unprepared fill material, _____ is prohibited.

a. organic soil
b. alluvial soil
c. mud
d. All of the above

55. Footing size and thickness must be in accordance with Table 1. (See _____ for determining post spacing and joist length.)

a. section 4 only
b. section 5 only
c. section 6 only
d. Both sections 4 and 5

56. The bearing capacity of the soil is presumed to be at least _____ and must be verified by a building inspector prior to placement of concrete.

a. 1000 psf
b. 1500 psf
c. 1750 psf
d. 2000 psf

57. Post attachments _____ in accordance with Figure 1 except expansion anchors are also permitted – and any instructions from the manufacturer of the anchor must be followed.

a. can be
b. are preferred to be
c. must be
d. All of the above

58. Joist length is the joist span plus any overhang beyond a beam. See section 5.4.

a. True
b. False

59. Post anchors must include a 1−inch−maximum base plate. Steel plates are required.

a. True
b. False

60. What does the acronym 'psf' stand for?

a. Point Spread function
b. Professional Service Firm
c. Pounds per Square Foot
d. Pressure Sand Filter

61. Post Spacing is measured from _____.

a. center to center
b. end to center
c. edge to edge
d. inside to inside

62. Using Table 1- Footing Size (In Inches)[1] [2] [3] , a 6’ joist length with corner footing and 6’ post spacing requires a _____ inch footing thickness.

a. 6
b. 8
c. 10
d. 12

63. Using Table 1- Footing Size (In Inches)[1] [2] [3], a 7’ joist length with a 4’ post spacing requires a _____ inch diameter corner footing.

a. 6
b. 8
c. 9
d. 10

64. Using Table 1- Footing Size (In Inches)[1] [2] [3], an 11’ joist length with corner footing and 13’ post spacing requires a_____ inch footing thickness.

a. 6
b. 8
c. 10
d. 12

65. Using Table 1- Footing Size (In Inches)[1] [2] [3], an 8’ joist length with 13’ post spacing requires a _____ inch diameter intermediate footing.

a. 16
b. 18
c. 20
d. 21

66. Using Table 1- Footing Size (In Inches)[1] [2] [3], a 14’ joist length with corner footing and 9’ post spacing requires a _____ inch footing thickness.

a. 6
b. 8
c. 10
d. 12

67. Using Table 1- Footing Size (In Inches)[1 2 3], a 13' joist length with a 15 inch diameter corner footing requires a _____ post spacing.

a. 5'
b. 6'
c. 7'
d. 8'

68. Using Table 1- Footing Size (In Inches)[1 2 3], a 16' joist length with corner footing and 13' post spacing requires a _____ inch footing thickness.

a. 6
b. 8
c. 10
d. 12

69. Using Table 1- Footing Size (In Inches)[1 2 3], a 10' joist length with 12' post spacing requires a _____ inch diameter corner footing.

a. 17
b. 18
c. 19
d. 20

70. Using Table 1- Footing Size (In Inches)[1 2 3], a 9' joist length with an 18 inch diameter corner footing requires a _____ post spacing.

a. 10'
b. 11'
c. 13'
d. 14'

71. Using Table 1- Footing Size (In Inches)[1 2 3], a 12' joist length with 12' post spacing requires a _____inch diameter intermediate footing.

a. 22
b. 23
c. 24
d. 25

72. Using Table 1- Footing Size (In Inches)[1 2 3], a 15' joist length with 8' post spacing requires a _____ inch diameter corner footing.

a. 17
b. 18
c. 19
d. 20

73. Using Table 1- Footing Size (In Inches)[1] [2] [3], an 9’ joist length with 10’ post spacing requires a _____ inch diameter intermediate footing.

a. 17
b. 18
c. 19
d. 20

74. All footing sizes are Base _____?

a. diameters^3
b. diameters^2
c. diametersπ
d. diameters$\approx$

75. Using Figure 1 – Footings, the ‘pre-manufactured post base with cast-in-place post anchor’ is represented by the letter _____ .

a. A
b. B
c. C
d. F

76. Using Figure 1 – Footings, the ‘frost depth’ is represented by the letter _____ .

a. A
b. B
c. C
d. D

77. Using Figure 1 – Footings, the ‘thickness’ is represented by the letter _____ .

a. G
b. E
c. F
d. D

78. Using Figure 1 – Footings, the ‘size per table 4’ is represented by the letter _____ .

a. G
b. E
c. F
d. D

79. Using Figure 1 – Footings, the ‘grade’ is represented by the letter _____ .

a. A
b. B
c. C
d. F

80. Using Figure 1 – Footings, the ‘post base’ is represented by the letter _____ .

a. A
b. B
c. C
d. F

81. Using Figure 1 – Footings, the ‘12” diameter concrete stem’ is represented by the letter _____.

a. A
b. B
c. C
d. F

Section 3: Posts and Post-to-Beam Connections

82. Any post supporting a beam splice must be a minimum of _____ .

a. 4” x 4”
b. 4” x 6”
c. 6” x 6”
d. 8” x 8”

83. The post height, measured from the top of the footing to the underside of the beam, must be in accordance with Table 2. Using table 2, the maximum post height for a 4”x 4” would be _____.

a. 6’
b. 8’
c. 10’
d. 14’

84. Toe−nailing of beams to posts is _____.

a. allowed under certain circumstances
b. prohibited
c. is always allowed
d. None of the above

85. Post caps, as shown in _____, must be specifically designed for _____ and the post size used.

a. Figure 2
b. 2 ply beams
c. 3 ply beams
d. all of the above

86. It is recommended that cut−ends of posts _____ field−treated with a wood preservative.

a. can be
b. may be
c. should be
d. None of the above

87. The post height, measured from the top of the footing to the underside of the beam, must be in accordance with Table 2. Using table 2 from the review materials, the maximum post height for a 6"x 6" would be _____.

a. 6'
b. 8'
c. 10'
d. 14'

88. Beams must be attached to posts by the appropriate methods shown in _____.

a. Figure 1
b. Figure 2
c. Table 1
d. Table 2

89. Post caps, as shown in Figure 2, must be specifically designed for 2− or 3−ply beams and the post size used. Attachment must be in accordance with the _____.

a. manufacturer's instructions
b. homeowners specifications
c. condo association requirements
d. All of the above

90. The post height, measured from the _____, must be in accordance with Table 2.

a. top of the footing to the top of the beam
b. center of the footing to the center of the beam
c. top of the footing to the underside of the beam
d. center of the footing to the top of the beam

91. Using Figure 2 Post –To-Beam Connections, the ‘post cap’ is represented by the letter _____ .

a. D
b. C
c. B
d. A

92. Using Figure 2 Post –To-Beam Connections, the ‘two-ply beam only’ is represented by the letter _____ .

a. D
b. C
c. H
d. E

93. Using Figure 2 Post –To-Beam Connections, the ‘two-or three -ply beam’ is represented by the letter _____ .

a. D
b. K
c. H
d. E

94. Using Figure 2 Post –To-Beam Connections, the ‘6x6 or 4x6’ post is represented by the letter _____ .

a. G
b. F
c. H
d. J

95. Using Figure 2 Post –To-Beam Connections, the ‘prohibited connection’ is represented by the letter _____ .

a. D
b. C
c. B
d. A

96. Using Figure 2 Post –To-Beam Connections, the ‘post’ is represented by the letter _____ .

a. E
b. C
c. B
d. F

97. Using Figure 2 Post –To-Beam Connections, the 'beam must bear on notch' is represented by the letter _____ .

a. G
b. F
c. H
d. J

98. Using Figure 2 Post –To-Beam Connections, the 'notch post for flush beam bearing' is represented by the letter _____ .

a. D
b. K
c. H
d. E

99. Using Figure 2 Post –To-Beam Connections the '(2)½" diameter through-bolts; at beam splice, provide two bolts at each beam end' is represented by the letter _____ .

a. G
b. F
c. H
d. J

100. Using Figure 2 Post –To-Beam Connections, the 'post width – 6" dimension (5½" actual)' is represented by the letter _____ .

a. G
b. F
c. K
d. H

Section 4: Beams

101. Beam Size is determined using table _____.

a. table 3A or 3B
b. figure 3 or 4
c. table 3A and figure 3
d. table 3B and figure 4

102. Maximum beam span length for Ponderosa Pine can be found in table _____.

a. Table 3A
b. Table 3B
c. Both 3A and 3B
d. none of the above

103. As shown in figure 3, the beam-span length is measured between the inside edge of 2 adjacent posts and does include the overhangs.

a. True
b. False

104. The depth of _____ must be greater than or equal to the joist depth.

a. dropped beams
b. flush beams
c. stringer beams
d. spandrel beams

105. Beams _____ past the center of the post up to one−fourth of the actual beam span, as shown in Figure 3.

a. shall overhang
b. should overhand
c. may overhang
d. both a. and c.

106. Pressure−preservative−treated glulam beams are permissible for spans longer than those shown in Table 3. However, a design and plan submission is _____ during the permit application process.

a. desired
b. recommended
c. preferred
d. required

107. Where multiple 2x members are used to assemble a beam, the plies of the beam must be fastened in accordance with Figure 4.

a. True
b. False

108. As shown in figure 3, the beam-span length is measured between the centerlines of 2 adjacent posts and _____ the overhangs.

a. sometimes includes
b. does not include
c. does include
d. None of the above

109. Figure 3 – Beam Types displays which types of beams?

a. dropped beams
b. flush beams
c. stringer beams
d. both a. and b.

110. Using Figure 3 – Beam Types, which letter represents the ‘dropped beam’ Diagram?

a. H
b. B
c. D
d. F

111. Using Figure 3 – Beam Types (Flush Beam), which letter represents the ‘beam’?

a. C
b. G
c. B
d. F

112. Using Figure 3 – Beam Types (Dropped Beam), which letter represents the ‘post’?

a. E
b. A
c. B
d. H

113. Using Figure 3 – Beam Types, which letter represents the ‘flush beam’ Diagram?

a. C
b. A
c. B
d. H

114. Using Figure 3 – Beam Types, which letter represents the ‘optional overhang’?

a. H
b. G
c. C
d. F

115. Using Figure 3 – Beam Types, which letter represents the ‘beam span’?

a. C
b. D
c. B
d. F

116. Using Figure 3 – Beam Types (Dropped Beam), which letter represents the ‘beam splice at interior post locations only’?

a. C
b. E
c. B
d. F

117. Using Figure 3 – Beam Types (Dropped Beam), which letter represents the 'joists'?

a. C
b. H
c. B
d. D

118. The maximum length of the overhang is equal to one−fourth of the actual beam span length (0.25 x beam span). [Refer to Footnotes]

a. True
b. False

119. Using Table 3A – Maximum Beam Span Length[1], when using Douglas Fir/Larch, Hem/Fir or Spruce/Pine/Fir (SPF), you need to check _____.

a. Footnote 1
b. Footnote 2
c. Footnote 3
d. Footnote 4

120. Beam depth _____ joist depth if joist hangers are used (see Figure 8, Option 3).

a. must be equal to or greater than
b. can be equal to the
c. may be equal to or greater than
d. None of the above

121. Spans are based on _____ live load, normal loading duration.

a. 10 psf
b. 20 psf
c. 30 psf
d. 40 psf

122. Footnote 4 is which of the following:

a. Incising is assumed
b. Design Values based on northern species with no incising assumed
c. Beam depth must be equal to or greater than joist depth.
d. Both a. and b.

123. Spans are based on _____, and deflections of _____ for main span and L/180 for overhang with a 220 lb. point load.

a. wet service conditions / =L/360
b. dry service conditions/ =L/360
c. wet or dry service conditions / =L/360
d. damp service conditions / =L/360

124. Spans are based on _____ dead load, normal loading duration.

a. 10 psf
b. 20 psf
c. 30 psf
d. 40 psf

125. Using Table 3A – Maximum Beam-Span Length for Red Pine, a joist span of ≤ 10’ with a 2 ply 2x10 beam has a maximum beam span length of:

a. 6’-6”
b. 7’-6”
c. 7’-11”
d. 8’-10”

126. Using Table 3A – Maximum Beam-Span Length for Western Cedar, a joist span of ≤ 16’ with a 3 ply 2x6 beam has a maximum beam span length of:

a. 6’-2”
b. 5’-11”
c. 5’-6”
d. 4’-9”

127. Using Table 3A – Maximum Beam-Span Length for Douglas Fir, a joist span of ≤ 6’ with a 3 ply 2x12 beam has a maximum beam span length of:

a. 8’-2”
b. 12’-1”
c. 13’-11”
d. 14’-0”

128. Using Table 3A – Maximum Beam-Span Length for Hem/Fir, a joist span of ≤ 18’ with a 4x8 beam has a maximum beam span length of:

a. 6’-6”
b. 7’-6”
c. 4’-10”
d. 3’-8”

129. Using Table 3A – Maximum Beam-Span Length for Spruce, a joist span of ≤ 8’ with a 4x12 beam has a maximum beam span length of:

a. 9’-11”
b. 8’-10”
c. 7’-6”
d. 4’-10”

130. Using Table 3A – Maximum Beam-Span Length for Spruce/Pine/Fir, a joist span of ≤ 12’ with a 3 ply 2x8 beam has a maximum beam span length of:

a. 5’-4”
b. 6’-11”
c. 7’-7”
d. 8’-6”

131. Using Table 3A – Maximum Beam-Span Length for Spruce/Pine/Fir, a joist span of ≤ 14’ with a 2 ply 2x12 beam has a maximum beam span length of:

a. 8’- 5””
b. 7’- 6”
c. 6’-10”
d. 6’- 4”

132. Using Figure 4 – Beam Assembly, ‘16” typical fastener spacing’ is represented by the letter _____ .

a. D
b. C
c. A
d. B

133. Using Figure 4 – Beam Assembly, ‘16d nails or # 12x3” wood screws, staggered in 2 rows’ is represented by the letter _____ .

a. D
b. C
c. A
d. B

134. Using Figure 4 – Beam Assembly, ‘If a beam is constructed with three-plies, attach each outside member to the inside’’ is represented by the letter _____ .

a. D
b. C
c. A
d. B

135. Using Figure 4 – Beam Assembly, ‘2 fasteners at each end and at splice ends’ is represented by the letter _____ .

a. D
b. C
c. A
d. B

Section 5: Joists

136. Provide full−depth 2x _____ for 2”x10” or deeper joists at intervals not exceeding _____ - except the blocking can be reduced to 60% of the height if placed above the beam, for drainage purposes.

a. blocking/ 8 feet
b. bridging/ 8 feet
c. blocking or bridging/ 6 feet
d. blocking or bridging/ 8 feet

137. The joist−span length is measured between the centerline of bearing at each joist−span end and _____ .

a. does include the overhangs
b. may include the overhangs
c. does not include the overhangs
d. None of the above

138. Joists may overhang past the center of the beam up to _____ of the actual joist span.

a. one-fourth
b. one-half
c. three-quarters
d. seven-eights

139. Attach the rim joist to the center of each joist with (3)16d nails or (3) #10 by 3−inch Thumb screws.

a. True
b. False

140. Joists must bear at least _____ nominal onto beams, unless joist hangers are used in accordance with section 7.

a. one inch
b. two inches
c. three inches
d. None of the above

141. Attach the blocking or bridging with (3)_____ at each end.

a. 2d toe-nails
b. 10d toe-nails
c. 3-inch wood screws
d. both b. and c.

142. Using Figure 5, the letter ‘K’ represents:

a. Joists with Dropped Beam – Deck attached at House
b. Post
c. Joist hanger
d. Joist span

143. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter ‘C’ represents:

a. Blocking
b. Post
c. Joist hanger
d. Joist span

144. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter ‘F’ represents:

a. Ledger board
b. Continuous rim joist
c. Optional overhang
d. Beam

145. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter ‘G’ represents:

a. Blocking
b. Post
c. Joist hanger
d. Joist span

146. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter ‘E’ represents:

a. Ledger board
b. Continuous rim joist
c. Optional overhang
d. Beam

147. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter ‘D’ represents:

a. Blocking
b. Joist
c. Joist hanger
d. Joist span

148. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter ‘A’ represents:

a. Blocking
b. Post
c. Joist hanger
d. Joist span

149. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter ‘I’ represents:

a. Ledger board
b. Continuous rim joist
c. Optional overhang
d. Beam

150. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter ‘H’ represents:

a. Blocking
b. Post
c. Joist hanger
d. Joist span

151. Using Figure 5 - Joists with Dropped Beam – Deck attached at House, the letter ‘B’ represents:

a. Ledger board
b. Continuous rim joist
c. Optional overhang
d. Beam

152. Using Figure 6 – Joists with flush Beam – Deck attached at House, the ‘joist hanger’ is represented by the letter:

a. H
b. G
c. F
d. E

153. Using Figure 6 – Joists with flush Beam – Deck attached at House, the ‘existing house wall’ is represented by the letter:

a. H
b. G
c. F
d. E

154. Using Figure 6 – Joists with flush Beam – Deck attached at House, the ‘joist’ is represented by the letter:

a. H
b. C
c. F
d. A

155. Using Figure 6 – Joists with flush Beam – Deck attached at House, the ‘ledger board’ is represented by the letter:

a. F
b. G
c. B
d. A

156. Using Figure 6 – Joists with flush Beam – Deck attached at House, the ‘beam’ is represented by the letter:

a. H
b. G
c. F
d. E

157. Using Figure 6 – Joists with flush Beam – Deck attached at House, the ‘joist span’ is represented by the letter:

a. B
b. D
c. C
d. A

158. Using Figure 6 – Joists with flush Beam – Deck attached at House, the ‘post beyond’ is represented by the letter:

a. C
b. D
c. F
d. E

159. Using Figure 7-Joists With Two Dropped Beams/Free-Standing Deck, the letter ‘G’ represents:

a. Joist span
b. optional overhang
c. beam
d. joist

160. Using Figure 7-Joists With Two Dropped Beams/Free-Standing Deck, the letter ‘D’ represents:

a. Joist span
b. post
c. blocking
d. continuous rim joist

161. Using Figure 7-Joists With Two Dropped Beams/Free-Standing Deck, the letter ‘B’ represents:

a. Joist with two dropped beams/free-standing deck
b. optional overhang
c. continuous rim joist
d. 2x blocking between joists or continuous rim joist

162. Using Figure 7-Joists With Two Dropped Beams/Free-Standing Deck, the letter ‘E’ represents:

a. Joist span
b. optional overhang
c. beam
d. joist

163. Using Figure 7-Joists With Two Dropped Beams/Free-Standing Deck, the letter ‘F’ represents:

a. post
b. blocking
c. beam
d. joist

164. Using Figure 7, the letter ‘A’ represents:

a. Joist with two dropped beams/free-standing deck Diagram
b. optional overhang
c. continuous rim joist
d. 2x blocking between joists or continuous rim joist

165. Using Figure 7-Joists With Two Dropped Beams/Free-Standing Deck, the letter ‘I’ represents:

a. Joist span
b. optional overhang
c. beam
d. joist

166. Using Figure 7-Joists With Two Dropped Beams/Free-Standing Deck, the letter ‘C’ represents:

a. Joist span
b. post
c. blocking
d. continuous rim joist

167. Using Figure 7-Joists With Two Dropped Beams/Free-Standing Deck, the letter ‘H’ represents:

a. Joist span
b. optional overhang
c. beam
d. joist

168. Using Table 4 – Maximum Joist-Span Length[1], using Southern Pine/without overhang, a 12" joist spacing (on center) with a 2'x10' joist size can have a maximum span of_____.

a. 13'-1"
b. 14'-6"
c. 16'-2"
d. 18'-0"

169. Using Table 4 – Maximum Joist-Span Length[1],, using Douglas Fir/with overhang, a 16" joist spacing (on center) with a 2'x6' joist size can have a maximum span of_____.

a. 6'-9"
b. 8'-0"
c. 9'-1"
d. 9'-5"

170. Using Table 4 – Maximum Joist-Span Length[1], using Larch/without overhang, a 12" joist spacing (on center) with a 2'x6' joist size can have a maximum span of_____.

a. 6'-9"
b. 8'-0"
c. 9'-1"
d. 9'-5"

171. Using Table 4 – Maximum Joist-Span Length[1], using Southern Pine/with overhang, a 24" joist spacing (on center) with a 2'x12' joist size can have a maximum span of_____.

a. 13'-6"
b. 14'-6"
c. 16'-2"
d. 18'-0"

172. Using Table 4 – Maximum Joist-Span Length[1], using Hem/ Fir with overhang, a 16" joist spacing (on center) with a 2'x8' joist size can have a maximum span of_____.

a. 6'-9"
b. 8'-0"
c. 9'-1"
d. 9'-5"

Section 6: Joist-to-Beam Connections

173. Use _____ if joists bear on a dropped beam.

a. Option 1
b. Option 2
c. Option 3
d. Options 1 or 2

174. Mechanical fasteners or hurricane clips must have a maximum capacity of 75 pounds in both uplift and lateral directions.

a. True
b. False

175. Option 1 is not allowed on free−standing decks.

a. True
b. False

176. Use _____ if joists bear at a flush beam; see section 7 for hanger requirements.

a. Option 1
b. Option 2
c. Option 3
d. Options 1 or 2

177. Using Figure 8 – Joist-To-Beam Connections, the letter ‘B’ represents:

a. Joist hanger
b. mechanical fastener or hurricane clip
c. top of beam and joist must be at same elevation
d. (3)8D Toe nailed or- (3)#10 wood screws (two on one side, one on the other)

178. Using Figure 8 – Joist-To-Beam Connections, the letter ‘C’ represents:

a. Joist hanger
b. mechanical fastener or hurricane clip
c. top of beam and joist must be at same elevation
d. (3)8D Toe nailed or- (3)#10 wood screws (two on one side, one on the other)

179. Using Figure 8 – Joist-To-Beam Connections, the letter ‘D’ represents:

a. Joist hanger
b. mechanical fastener or hurricane clip
c. top of beam and joist must be at same elevation
d. (3)8D Toe nailed or- (3) #10 wood screws (two on one side, one on the other)

180. Using Figure 8 – Joist-To-Beam Connections, the letter ‘A’ represents:

a. Joist hanger
b. mechanical fastener or hurricane clip
c. top of beam and joist must be at same elevation
d. (3)8D Toe nailed or- (3)#10 wood screws (two on one side, one on the other)

Section 7: Joist Hangers

181. The joist−hanger depth (d, as shown in Figure 9) must be at least _____ of the joist depth.

a. 20 percent
b. 35 percent
c. 50 percent
d. 60 percent

182. For joist hangers that are fastened to a ledger board, _____ by the manufacturer must be used.

a. screws which are recommended
b. nails which are recommended
c. clamps which are recommended
d. screws or nails which are recommended

183. The manufactured width of the joist hanger _____ the number of plies being carried.

a. can accommodate
b. may accommodate
c. must accommodate
d. is recommended to accommodate

184. Each joist hanger must have the minimum capacity listed in Table 5.

a. True
b. False

185. _____ hanger flanges to accommodate field conditions.

a. Do not bend
b. You may bend
c. Alter
d. None of the above

186. Joists _____ from both sides of the same beam.

a. can frame in
b. may frame in
c. could frame in
d. must not frame in

187. The number of fasteners and the manner in which they are used must be as specified by the _____.

a. building inspector
b. manufacturer
c. homeowner
d. both a. and b.

188. For joist hangers that are fastened to a ledger board, screws which are recommended by the lumber yard must be used. All other fasteners are required to be nails.

a. True
b. False

189. Clip−angles or brackets used to support framing members in lieu of joist hangers _____.

a. are required
b. are strongly recommended
c. are prohibited
d. both a. and b.

190. Use joist hangers with _____ if clearances to the edge of the beam or ledger board dictate.

a. inside flanges
b. outside flanges
c. floor flanges
d. both a. and b.

191. Using Figure 9 – Joist Hangers, which flange is represented in graph A?

a. inside flange
b. outside flange
c. floor flange
d. pool flange

192. Using Table 5 – Joist Hanger Download, what is the minimum download capacity for a 2”x8” joist?

a. 500 lbs.
b. 600 lbs.
c. 700 lbs.
d. All of the above

193. Using Table 5 – Joist Hanger Download, what is the minimum download capacity for a 2”x12” joist?

a. 500 lbs.
b. 600 lbs.
c. 700 lbs.
d. All of the above

194. Using Table 5 – Joist Hanger Download, what is the minimum download capacity for a 2”x10” joist?

a. 500 lbs.
b. 600 lbs.
c. 700 lbs.
d. All of the above

195. Using Figure 9 – Joist Hangers, which flange is represented in graph B?

a. inside flange
b. outside flange
c. floor flange
d. pool flange

Section 8: Ledger Attachments

196. The ledger−board depth must be greater than or equal to the depth of the deck joists, but _____ .

a. not less than 2”x4”
b. not less than 2”x6”
c. not less than 2”x8”
d. none of the above

197. Continuous flashing with a drip edge, as shown in _____, is required at a ledger board that is attached to wood−framed construction.

a. Figure 11
b. Figure 12
c. Figure 13
d. Figure 14

198. The existing band board on the house must be capable of supporting the deck.

a. True
b. False

199. The _____ and the _____ must be at the same elevation.

a. top of the ledger board / bottom of the deck joists
b. top of the ledger board / top of the deck joists
c. bottom of the ledger board / bottom of the deck joist
d. bottom of the ledger board / top of the deck joist

200. The exterior finish, such as house siding, can be removed in the area for the ledger board after the installation of the ledger board.

a. True
b. False

201. The ledger board must be attached in accordance with one of the conditions shown in _____ – except if metal−plate−connected wood floor trusses were used in the house, see the text for manufactured wood trusses.

a. Figures 11 and 12
b. Figures 12 and 13
c. Figures 11 through 14
d. Figures 11 through 13

202. MPCWT systems that are used in residential floors are often installed with a _____ lumber "ribbon" board at the ends of the trusses to tie the ends of the trusses together (see Detail 1 in Appendix C.).

a. 2"x4"
b. 2"x6"
c. 4"x4"
d. 2"x8"

203. Installing a residential deck where the floor for the house uses a MPCWT system must be in accordance with a standard detail provided by the truss designer, a corresponding detail in section 7 of Appendix C, or a full plan submission – unless the deck is free−standing as addressed in section 10.

a. True
b. False

204. A _____ is an engineered, prefabricated struc- tural component that is designed for each specific application.

a. manufactured−plate−connected wood truss (MPCWT)
b. metal−plate−connected wood trim (MPCWT)
c. metal−plate−connected wood truss (MPCWT)
d. manufactured−plate−centered wood truss (MPCWT)

205. Many homes are constructed with wood I−joists, as shown in Figure 10. Rather than utilize a 2x band board, these systems are often constructed with a minimum 1−inch−thick engineered wood product (EWP) band board capable of supporting a deck. If a minimum 1−inch EWP or 2x band board is not present, then a free− standing deck is required, as addressed in section 10.

a. True
b. False

206. Flashing must be a corrosion−resistant metal having a minimum nominal 0.019−inch thickness – such as galvanized steel coated with _____, copper (attached using copper nails only), or stainless steel – or must be a UV−resistant plastic recommended by its manufacturer for this use.

a. 1.65 ounces of zinc per square foot (G−165 coating)
b. 1.85 ounces of zinc per square foot (G−185 coating)
c. 1.75 ounces of zinc per square foot (G−175 coating)
d. All of the above

207. Using Figure 11 – Attachment of Ledger Board to Band Board or Band Joist, the letter 'C' represents

a. deck joist
b. floor joist
c. joist hanger
d. 2x ledger board

208. Using Figure 11 – Attachment of Ledger Board to Band Board or Band Joist, the letter 'H' represents

a. exterior sheathing
b. foundation wall
c. joist hanger
d. 2x ledger board

209. Using Figure 11 – Attachment of Ledger Board to Band Board or Band Joist, the letter 'J' represents

a. existing stud wall
b. remove siding at ledger prior to installation
c. existing 2x or 1" minimum EWP band board
d. ½ "diameter lag screws or through-bolts

210. Using Figure 11 – Attachment of Ledger Board to Band Board or Band Joist, the letter 'E' represents

a. deck joist
b. floor joist
c. joist hanger
d. 2x ledger board

211. Using Figure 11 – Attachment of Ledger Board to Band Board or Band Joist, the letter 'B' represents

a. exterior sheathing
b. foundation wall
c. joist hanger
d. 2x ledger board

212. Using Figure 11 – Attachment of Ledger Board to Band Board or Band Joist, the letter ‘G’ represents

a. existing stud wall
b. remove siding at ledger prior to installation
c. existing 2x or 1” minimum EWP band board
d. ½ “diameter lag screws or through-bolts

213. Using Figure 11 – Attachment of Ledger Board to Band Board or Band Joist, the letter ‘K’ represents

a. deck joist
b. floor joist
c. joist hanger
d. 2x ledger board

214. Using Figure 11 – Attachment of Ledger Board to Band Board or Band Joist, the letter ‘I’ represents

a. existing stud wall
b. remove siding at ledger prior to installation
c. existing 2x or 1” minimum EWP band board
d. ½ “diameter lag screws or through-bolts

215. Using Figure 11 – Attachment of Ledger Board to Band Board or Band Joist, the letter ‘D’ represents

a. existing stud wall
b. remove siding at ledger prior to installation
c. existing 2x or 1” minimum EWP band board
d. ½ “diameter lag screws or through-bolts

216. Using Figure 11 – Attachment of Ledger Board to Band Board or Band Joist, the letter ‘A’ represents

a. existing stud wall
b. foundation wall
c. 2x ledger board
d. exterior sheathing

217. Using Figure 11 – Attachment of Ledger Board to Band Board or Band Joist, the letter ‘F’ represents

a. ½ “diameter lag screws or through-bolts
b. remove siding at ledger prior to installation
c. existing 2x or 1” minimum EWP band board
d. continuous flashing with drip edge

218. Using Figure 12 – Attachment of Ledger Board Solid Foundation, the ’joist hanger’ is represented by the letter

a. B
b. C
c. D
d. E

219. Using Figure 12 – Attachment of Ledger Board Solid Foundation, the ’concrete or solid masonry wall’ is represented by the letter

a. H
b. G
c. F
d. E

220. Using Figure 12 – Attachment of Ledger Board Solid Foundation, the ’to resist corrosion and decay, this area should be caulked’ is represented by the letter

a. D
b. C
c. B
d. A

221. Using Figure 12 – Attachment of Ledger Board Solid Foundation, the ’deck joist’ is represented by the letter

a. B
b. C
c. D
d. E

222. Using Figure 12 – Attachment of Ledger Board Solid Foundation, the ’embedment distance per manufacturer’ is represented by the letter

a. H
b. G
c. F
d. E

223. Using Figure 12 – Attachment of Ledger Board Solid Foundation, the ’½ “diameter expansion anchors with washers’ is represented by the letter

a. B
b. C
c. D
d. E

224. Using Figure 12 – Attachment of Ledger Board Solid Foundation, the ’edge distance per manufacturer’ is represented by the letter

a. H
b. G
c. F
d. E

225. Using Figure 12 – Attachment of Ledger Board Solid Foundation, the ’2x ledger board’ is represented by the letter

a. B
b. C
c. D
d. E

226. Attaching a ledger board to or through an exterior veneer such as _____, or to or through a _____, or to a _____ – as shown in Figure 14 – are prohibited. In such cases, the deck must be free−standing, as addressed in section 10. Attaching a ledger board to a house overhang is allowed if supported by engineering.

a. brick or stone
b. masonry chimney
c. house overhang
d. All of the above

227. Using Figure 13 – Attachment of Ledger Board to Hollow Foundation, the ‘hollow masonry wall’ is represented by the letter

a. I
b. H
c. G
d. F

228. Using Figure 13 – Attachment of Ledger Board to Hollow Foundation, the ‘8” block wall - minimum’ is represented by the letter

a. D
b. E
c. F
d. G

229. Using Figure 13 – Attachment of Ledger Board to Hollow Foundation, the ‘edge distance per manufacturer’ is represented by the letter

a. I
b. H
c. G
d. F

230. Using Figure 13 – Attachment of Ledger Board to Hollow Foundation, the '½" diameter approved adhesive anchors with washers' is represented by the letter

a. D
b. C
c. B
d. A

231. Attaching a ledger board to a house overhang is allowed if supported by engineering.

a. True
b. False

232. Using Figure 13 – Attachment of Ledger Board to Hollow Foundation, the 'embedment distance per manufacturer' is represented by the letter

a. G
b. C
c. E
d. A

233. Using Figure 13 – Attachment of Ledger Board to Hollow Foundation, the 'to resist corrosion and decay, this area should be caulked' is represented by the letter

a. G
b. C
c. E
d. A

234. Using Figure 13 – Attachment of Ledger Board to Hollow Foundation, the '2x ledger board' is represented by the letter

a. D
b. E
c. F
d. G

Section 9: Ledger-Board Fasteners

235. Lead anchors are prohibited.

a. True
b. False

236. Adequacy of connections must be verified with an engineer.

a. True
b. False

237. Using Figure 15 – Ledger Board Fastener Spacing and Clearances, the letter ‘D’ represents

a. lag screw
b. thru-bolt
c. anchor with washer
d. All of the above

238. Using Figure 15 – Ledger Board Fastener Spacing and Clearances, the letter ‘A’ represents

a. 2” max
b. 2” min
c. 5” max
d. 5” min

239. Using Figure 15 – Ledger Board Fastener Spacing and Clearances, the letter ‘G’ represents

a. staggered fasteners in 2 rows
b. 2” min
c. 5” max
d. ¾“ min

240. Using Figure 15 – Ledger Board Fastener Spacing and Clearances, the letter ‘F’ represents

a. 5.5” min for 2x8*
b. 6.5” min. for 2x10
c. 7.5” min. for 2x12
d. All of the above

241. Using Table 6 - Ledger Board Fastener Spacing, on Center[1] [2] [3] and the notes: The thickness of the sheathing over the band board _____ .

a. must not exceed 10/26”
b. must not exceed 12/28”
c. must not exceed 15/32”
d. may exceed 16/34”

242. Pilot holes for through−bolts must be 17/32 to 9/16 inches in diameter.

a. True
b. False

243. Expansion or adhesive anchors must be used for attaching a ledger board to a concrete or solid masonry wall, as shown in _____.

a. Figure 11
b. Figure 12
c. Figure 13
d. Figure 14

244. Bolts should be tightened _____ after construction due to drying and wood shrinkage.

a. 6 to 12 months
b. 4 to 10 months
b. 2 to 6 months
d. within 1 month

245. Using Table 6 - Ledger Board Fastener Spacing, on Center[1] [2] [3] and the notes: Where solid−sawn pressure−preservative−treated deck ledgers are attached to engineered wood products (_____ or structural composite lumber including laminated veneer lumber), the ledger attachment must be designed in accordance with accepted engineering practice. These tabulated values are in accordance with that practice and are based on 300 lbs and 350 lbs for 1" and 1 1/8" EWP rim board, respectively.

a. maximum 1" thick wood structural panel band joist
b. minimum 1" thick wood structural panel band joist
c. recommended 1" thick wood structural panel band joist
d. Any of the above

246. Approved adhesive anchors with a 1/2 inch−diameter threaded rod must be used for attaching a ledger board to hollow masonry, as shown in _____.

a. Figure 11
b. Figure 12
c. Figure 13
d. Figure 14

247. Using Table 6 - Ledger Board Fastener Spacing, on Center[1] [2] [3] and the notes: The minimum gap between the face of the ledger board and face of the wall sheathing is 1.

a. True
b. False

248. The values in Table 6 - Ledger Board Fastener Spacing, on Center[1] [2] [3] and the notes: These Values are valid for deck ledgers consisting of _____, hem/fir, or southern pine; and for band boards consisting of _____, _____, spruce−pine−fir, southern pine, or _____ .

a. douglas fir/larch
b. hem−fir
c. engineered wood product (EWP)
d. All of the above

249. Using Table 6 - Ledger Board Fastener Spacing, on Center[1] [2] [3] and the notes: Wood _____, _____, or _____ is permitted between the ledger board and the band board.

a. foam sheeting
b. gypsum board sheating
c. structural panel sheating
d. All of the above

250. Adhesive anchors must be installed in accordance with the _____ and must be equipped with washers. Adhesive cartridges should remain on the jobsite for _____.

a. inspector's approval/ proper verification
b. manufacturer's instructions/ inspector verification
c. homeowner's instructions/ inspector verification
d. manufacturer's instructions / DNR hazardous waste disposal verification.

251. The _____ of lag screws must comply with Figure 16.

a. shank
b. diameter
c. length
d. All of the above

252. Tighten each lag screw snugly, but do not over−tighten so as to cause wood damage.

a. True
b. False

253. Insert the lag screw through the ledger board and into the pilot hole by turning. _____ with a hammer.

a. You may drive
b. You can drive
c. Do not drive
d. Both a. and b.

254. Do not use soap or a wood−compatible lubricant if needed to facilitate tightening.

a. True
b. False

Section 10: Free-Standing Decks

255. If the edge of a deck footing is closer than 5 feet to an existing exterior house wall, the footing _____ as the existing wall footing as shown in Figure 17.

a. must bear at the same elevation
b. can bear at the same elevation
c. may bear at the same elevation
d. is recommended to bear at the same elevation

256. Using Figure 17 – Free-Standing Deck, the letter ‘A’ represents:

a. diagonal bracing
b. joist overhang
c. 2x blocking or rim joist
d. rim joist

257. Using Figure 17 – Free-Standing Deck, the letter ‘C’ represents:

a. existing house foundation wall
b. beam, post
c. when less than 5’, footings must be at same elevation as existing house footing
d. 2x blocking or rim joist

258. Using Figure 17 – Free-Standing Deck, the letter ‘E’ represents:

a. rim joist
b. joist
c. beam, post
d. joist overhang

259. Using Figure 17 – Free-Standing Deck, the letter ‘G’ represents:

a. diagonal bracing
b. joist overhang
c. 2x blocking or rim joist
d. rim joist

260. Using Figure 17 – Free-Standing Deck, the letter ‘D’ represents:

a. existing house foundation wall
b. beam, post
c. when less than 5’, footings must be at same elevation as existing house footing
d. 2x blocking or rim joist

261. Using Figure 17 – Free-Standing Deck, the letter ‘H’ represents:

a. rim joist
b. joist
c. beam, post
d. joist overhang

262. Using Figure 17 – Free-Standing Deck, the letter ‘B’ represents:

a. diagonal bracing
b. joist overhang
c. 2x blocking or rim joist
d. rim joist

263. Using Figure 17 – Free-Standing Deck, the letter 'F' represents:

a. diagonal bracing
b. joist overhang
c. joist
d. rim joist

Section 11: Lateral Support

264. A deck that is more than 24 inches above grade must resist lateral loads in accordance with the following: Diagonal Bracing. Provide diagonal bracing both parallel and perpendicular to the beam at each post as shown in _____ .

a. Figure 18
b. Figure 19
c. Figure 20
d. Figure 21

265. A deck that is more than 24 inches above grade must resist lateral loads in accordance with the following: Where perpendicular to the beam, the bracing _____ to the post at one end and to a joist or blocking between joists at the other.

a. can be bolted
b. must be bolted
c. should be bolted
d. is recommended to be bolted

266. A deck that is more than 24 inches above grade must resist lateral loads in accordance with the following: Bracing is required perpendicular to the house for a deck that is not attached to the house with a ledger board under either section 8 or 9 and the connection specified in either Figure 19 or 20.

a. True
b. False

267. A deck that is more than 24 inches above grade must resist lateral loads in accordance with the following: All bracing may be omitted for a deck which is attached to the house in accordance with _____ and which has all of its decking installed at a 45 degree angle to the deck joists.

a. section 8
b. section 9
c. Figure 21
d. All of the above

268. A deck that is more than 24 inches above grade must resist lateral loads in accordance with the following: Where a joist does not align with the bracing location, provide blocking between the adjacent joists.

a. True
b. False

269. Using Figure 18 – Diagonal Bracing Requirements, the letter ‘D’ represents:

a. joist and post locations
b. provide blocking when joists do not align with posts
c. beam
d. (1) 3/8” diameter thru-bolt with washers, typical

270. Using Figure 18 – Diagonal Bracing Requirements, the letter ‘E’ represents:

a. joist and post locations
b. provide blocking when joists do not align with posts
c. 14’-0” maximum
d. (1) 3/8” diameter thru-bolt with washers, typical

271. Using Figure 18 – Diagonal Bracing Requirements, the letter ‘G’ represents:

a. joist at post locations
b. provide blocking when joists do not align with posts
c. beam
d. (1) 3/8” diameter thru-bolt with washers, typical

272. Using Figure 18 – Diagonal Bracing Requirements, the letter ‘A’ represents:

a. joist and post locations
b. provide blocking when joists do not align with posts
c. beam
d. (1) 3/8” diameter thru-bolt with washers, typical

273. Using Figure 19 – Tension-Tie Connection, with Ledger Board, the letter ‘D’ represents:

a. tension-tie fastened per manufacturer
b. install tension-tie to underside of outside and first inside joists on each side of deck
c. end joist or first inside joist
d. floor joists parallel to deck joists

274. Using Figure 19 – Tension-Tie Connection, with Ledger Board, the letter ‘A’ represents:

a. tension-tie fastened per manufacturer
b. install tension-tie to underside of outside and first inside joists on each side of deck
c. end joist or first inside joist
d. floor joists parallel to deck joists

275. Using Figure 19 – Tension-Tie Connection, with Ledger Board, the letter ‘E’ represents:

a. ½” lag screw
b. install tension-tie to underside of outside and first inside joists on each side of deck
c. end joist or first inside joist
d. floor joists parallel to deck joists

276. Using Figure 19 – Tension-Tie Connection, with Ledger Board, the letter 'C' represents:

a. tension-tie fastened per manufacturer
b. end joist or first inside joist
c. ½" lag screw
d. floor joists parallel to deck joists

277. Tension ties, if used instead of perpendicular bracing as described above, must comply with all of the following, but are not permitted for free−standing decks: The maximum capacity of each tension−tie is 650 pounds.

a. True
b. False

278. Tension ties, if used instead of perpendicular bracing as described above, must comply with all of the following, but are not permitted for free−standing decks: Lag screws must penetrate a _____ into the sill plate or top plate of a wood−framed wall.

a. minimum of 3 inches
b. minimum of 4 inches
c. maximum of 3 inches
d. maximum of 4 inches

279. Hold−down tension devices. Hold−down tension devices, if used instead of perpendicular bracing as described in Figure 20, must be provided in _____, and each device must have an allowable−stress−design capacity of at least _____.

a. at least 2 locations per deck/ 1,200 pounds
b. at least 2 locations per deck/ 1,500 pounds
c. no more than 2 locations per deck/ 1,700 pounds
d. no more than 4 locations per deck/ 1,000 pounds

280. Free−standing deck – attachment to house. Do not attach to brick veneers. Verify this condition in the field prior to utilizing this method. Fasteners must be 16 inches on center and staggered in 2 rows. Flashing over the rim joist is required and must be installed in accordance with the flashing provisions in section 8.

a. True
b. False

281. Using Figure 21 – Attachment of Free-Standing Deck to House for Lateral Support, the letter 'A' stands for:

a. exterior sheathing min. thickness =3/8"
b. existing wall stud, band joist or concrete or masonry foundation wall
c. fasteners @ 16" o.c. staggered
d. continuous flashing extending past rim joist fasteners

282. Using Figure 21 – Attachment of Free-Standing Deck to House for Lateral Support, the letter ‘G’ stands for:

a. rim joist
b. existing wall stud, band joist or concrete or masonry foundation wall
c. remove siding at rim joist location prior to installation
d. beam & post

283. Using Figure 21 – Attachment of Free-Standing Deck to House for Lateral Support, the letter ‘C’ stands for:

a. fasteners @ 16” o.c. staggered
b. existing wall stud, band joist or concrete or masonry foundation wall
c. beam & post
d. continuous flashing extending past rim joist fasteners

284. Using Figure 21 – Attachment of Free-Standing Deck to House for Lateral Support, the letter ‘F’ stands for:

a. exterior sheathing min. thickness =3/8”
b. existing wall stud, band joist or concrete or masonry foundation wall
c. fasteners @ 16” o.c. staggered
d. continuous flashing extending past rim joist fasteners

285. Using Figure 21 – Attachment of Free-Standing Deck to House for Lateral Support, the letter ‘B’ stands for:

a. exterior sheathing min. thickness =3/8”
b. existing wall stud, band joist or concrete or masonry foundation wall
c. fasteners @ 16” o.c. staggered
d. continuous flashing extending past rim joist fasteners

286. Using Figure 21 – Attachment of Free-Standing Deck to House for Lateral Support, the letter ‘D’ stands for:

a. fasteners @ 16” o.c. staggered
b. existing wall stud, band joist or concrete or masonry foundation wall
c. beam & post
d. continuous flashing extending past rim joist fasteners

287. Using Figure 21 – Attachment of Free-Standing Deck to House for Lateral Support, the letter ‘E’ stands for:

a. rim joist
b. existing wall stud, band joist or concrete or masonry foundation wall
c. remove siding at rim joist location prior to installation
d. beam & post

Section 12: Decking

288. Decking may overhang a joist by _____ unless disallowed in the manufacturer's instructions.

a. up to 1 inches
b. up to 2 inches
c. up to 3 inches
d. up to 4 inches

289. Each wood decking member must bear on a minimum of _____ or intermediate blocking between joists.

a. 2 joists
b. 3 joists
c. 4 joists
d. None of the above

290. Wood decking must be _____ decking boards.

a. 2x4s
b. 2x6s
c. five-quarter span-rated
d. All of the above

291. Plastic decking may be used if it is approved by a professional testing organization for supporting a live load of _____ and is installed according to the manufacturer's instructions.

a. 40 psf
b. 30 psf
b. 20 psf
d. Any of the above

292. Using Figure 22 – Typical Decking, the '1/8" typical gap after drying' is represented by the letter:

a. D
b. C
c. B
d. A

293. The center−to−center joist spacing may _____for wood decking, _____ for wood−plastic−composite decking unless specified otherwise by the manufacturer.

a. may be up to 24 inches/ may not exceed 20 inches
b. may be up to 20 inches/ may not exceed 24 inches
c. may be up to 20 inches/ may not exceed 16 inches
d. may be up to 24 inches/ may not exceed 16 inches

294. Using Figure 22 – Typical Decking, the '(2) 8d nails or (2) #8 screws at each post' is represented by the letter:

a. D
b. C
c. B
d. A

295. Using Figure 23 – Rim Joist Connection, the 'attach rim joist to end of each joist with (3) 10d threaded nails or (3) #10x3" minimum wood screw' is represented by the letter:

a. C
b. D
c. E
d. F

Section 13: Guard and Posts

296. The guard and posts must withstand a _____ applied in any direction.

a. 100 – pound load
b. 150 – pound load
c. 175 – pound load
d. 200 – pound load

297. Required horizontal guards shall not have openings from the walking surface to the required guard height which allow passage of _____, when applying a force of 4 pounds.

a. a sphere 4 inches in diameter
b. a sphere 4.5 inches in diameter
c. a sphere 5 inches in diameter
d. a sphere 5.5 inches in diameter

298. Wet lumber must be spaced such that when shrinkage due to drying occurs, a compliant opening is maintained.

a. True
b. False

299. Guard−infill components, such as balusters and panel fillers, must withstand a horizontally applied, perpendicular load of _____.

a. 25 pounds on any one-foot-square area
b. 30 pounds on any one-foot-square area
c. 40 pounds on any one-foot-square area
d. 50 pounds on any one-foot-square area

300. Rope, cable, or a similar non−rigid material must be used instead of balusters if it is strung with minimum openings of 3 1/2 inches and with vertical supports no more than 5 feet apart.

a. True
b. False

301. Wood−plastic composites of equivalent dimensions may be substituted for the guard cap and infill elements shown in Figure 24 if the manufacturer's instructions permit this use.

a. True
b. False

302. Using figure 24 – Guards, the letter 'D' represents:

a. 36" minimum
b. 2" min. top and bottom
c. 6' maximum
d. (2) ½" diameter through bolts and washers

303. Using figure 24 – Guards, the letter 'B' represents:

a. 36" minimum
b. 2" min. top and bottom
c. 6' maximum
d. (2) ½" diameter through bolts and washers

304. Using figure 24 – Guards, the letter 'F' represents:

a. 2x4 rail runners fastened to guard post with (2) 8d nails or (2) #8 wood screws
b. 2" min. top and bottom
c. attach baluster to rail runners with (1) #8 wood screws or (2) 8d nails
d. (2) ½" diameter through bolts and washers

305. Using figure 24 – Guards, the letter 'I' represents:

a. 36" minimum
b. 2" min. top and bottom
c. 6' maximum
d. 2x2 baluster

306. Notching guard posts, as shown in Figure 25, is prohibited.

a. True
b. False

307. Bolt holes for a post must be at least 2 inches from the wood edge, at least 2½ inches apart, and no more than 5 inches apart.

a. True
b. False

308. Using Figure 26 – Guard Post to End Joist, the letter 'E' represents:

a. hold-down anchors
b. fasteners and attachment per hold-down manufacturer
c. at first interior bay, provide full-depth 2x blocking at guarpost; toenail with 10d nails top and bottom, each side
d. end joist

309. Using Figure 26 – Guard Post to Rim Joist, the letter 'B' represents:

a. hold-down anchors
b. guard post
c. post aligned at joist
d. end joist

310. Using Figure 26 – Guard Post to End Joist, the letter 'D' represents:

a. hold-down anchors
b. fasteners and attachment per hold-down manufacturer
c. at first interior bay, provide full-depth 2x blocking at guardpost; toenail with 10d nails top and bottom, each side
d. end joist

311. Using Figure 26 – Guard Post to End Joist, the letter 'A' represents:

a. hold-down anchors
b. fasteners and attachment per hold-down manufacturer
c. at first interior bay, provide full-depth 2x blocking at guardpost; toenail with 10d nails top and bottom, each side
d. end joist

312. Using Figure 26 – Guard Post to Rim Joist, the letter 'D' represents:

a. hold-down anchors, fastener per manufacturer
b. guard post
c. post aligned at joist
d. end joist

Section 14: Stairs

313. Stair Dimensions: The minimum width of a stairway is _____.

a. 35 inches
b. 36 inches
c. 38 inches
d. 40 inches

314. Stair Dimensions: Any landing width should equal, but not exceed the total width of the stairway it serves.

a. True
b. False

315. Stair Dimensions: The minimum clear width at and below the handrail, including at treads and landings, _____ where a handrail is installed on one side, and 27 inches where handrails are provided on both sides.

a. cannot be more than 28 ½ inches
b. cannot be less than 30 inches
c. cannot be less than 31 ½ inches
d. cannot be more than 32 inches

316. Stair Dimensions: If the total vertical height of a stairway exceeds _____, an intermediate landing is required and must be constructed as a free−standing deck with flush beams and with posts.

a. 9 feet
b. 10 feet
c. 11 feet
d. 12 feet

317. Stair Dimensions: Within a stairway flight, the largest tread depth may not exceed the smallest tread depth by more than _____, and the largest riser height may not exceed the smallest riser height by more than _____ .

a. 3/8 inch / 3/8 inch
b.1/2 inch / 3/8 inch
c. 3/8 inch /1/2 inch
d.1/2 inch/ 1/2 inch

318. Stair Dimensions: _____ may project a maximum of 4 1/2 inches into the required width at each side of the stairway.

a. handrails
b. associated trim
c. both a. and b.
d. none of the above

319. Stair Dimensions: The minimum clear width at and below the handrail, including at treads and landings, cannot be less than 31 ½ inches where a handrail is installed on one side, and _____ where handrails are provided on both sides.

a. 24 inches
b. 25 inches
c. 26 inches
d. 27 inches

320. Using Figure 27 – Treads and Risers, the letter 'A' is represents:

a. 4" diameter sphere shall not pass
b. 9" min. tread
c. 8" max. riser
d. riser

321. Using Figure 27 – Treads and Risers, the letter 'B' is represents:

a. tread
b. 9" min. tread
c. 8" min. riser
d. riser

322. Using Figure 27 – Treads and Risers, the letter 'D' is represents:

a. tread
b. 9" min. tread
c. 8" min. riser
d. 4" diameter sphere shall not pass

323. Solid−stringer exception: Stringers for a stairway that has a width of 40 inches may have a horizontally projected span of up to 14 feet if the stairway is framed solely with 2 solid stringers.

a. True
b. False

324. Stair Stringers: Cut stringers must be spaced no more than _____.

a. 16 inches on center
b. 17 inches on center
c. 18 inches on center
d. None of the above

325. Stair Stringers: Stringer−span length is measured using the horizontally projected distance between the centerlines of bearing at each end.

a. True
b. False

326. The span length of a cut stringer must not exceed _____, and the throat size of cut stringers must not be less than _____, as shown in _____.

a. 6’ 0” / 5 inches / Figure 29
b. 5’12” / 5 inches / Figure 28
c. 6’0” / 3 inches / Figure 29
d. 5’10” / 3 inches / Figure 28

327. Intermediate−supported stringers: If the total stringer length exceeds the above dimensions, a _____ may be provided to support the stringer and shorten its span length.

a. 2”x2” post
b. 4”x4” post
c. 6”x6” post
d. 8”x8” post

328. Using Figure 28 – Stringer Bearing, the letter ‘J’ represents:

a. sloped joist hanger
b. beam or outside joist
c. landing
d. deck or landing structure

329. Using Figure 28 – Stringer Bearing, the letter ‘E’ represents:

a. 2x ledger; attach to beam or joist with (3) 16d nails at each stringer location
b. beam or outside joist
c. toe nail to ledger with (3) 8d nails
d. deck or landing structure

330. Using Figure 28 – Stringer Bearing, the letter ‘G’ represents:

a. sloped joist hanger
b. beam or outside joist
c. lower bearing at landing
d. upper bearing at deck or landing

331. Using Figure 28 – Stringer Bearing, the letter ‘C’ represents:

a. 2x ledger; attach to beam or joist with (3) 16d nails at each stringer location
b. beam or outside joist
c. toe nail to ledger with (3) 8d nails
d. deck or landing structure

332. Using Figure 28 – Stringer Bearing, the letter ‘D’ represents:

a. 2” min.
b. 3” min.
c. landing structure
d. deck or landing structure

333. Using Figure 28 – Stringer Bearing, the letter ‘Q’ represents:

a. Lower Bearing at Footing
b. Lower Bearing at Landing
c. Lower Bearing at Footing – Frost Protected
d. Upper Bearing at Deck or Landing

334. Using Figure 28 – Stringer Bearing, the letter ‘L’ represents:

a. 8” square or 10” round x 48” deep footing required
b. 12” x 3 3/8” octagonal or 10” x3 ½” round precast concrete pad
c. landing structure
d. deck or landing structure

335. Using Figure 28 – Stringer Bearing (Upper Bearing at Deck or Landing), the letter ‘K’ represents:

a. beam or outside joist
b. deck or landing structure
c. landing structure
d. sloped joist hanger

336. Using Figure 28 – Stringer Bearing (Lower Bearing at Footing), the letter ‘H’ represents:

a. 8” square or 10” round x 48” deep footing required
b. 12” x 3 3/8” octagonal or 10” x3 ½” round precast concrete pad
c. 2x ledger; attach to beam or joist with (3) 16d nails at each stringer location
d. toe nail to ledger with (3) 8d nails

337. Using Figure 29 – Stringer Bearing, the letter ‘F’ represents:

a. 6” minimum
b. frost depth
c. 10”x10” square or 12” dia. Footing
d. 4x4 post

338. Using Figure 29 – Stringer Bearing, the letter ‘D’ represents:

a. 6” minimum
b. frost depth
c. 10”x10” square or 12” dia. Footing
d. 4x4 post

339. Stairs constructed using the solid−stringer exception noted above must have treads constructed of 2x wood material only and be attached in accordance with _____.

a. Figure 29
b. Figure 30
c. Figure 31
d. Figure 32

340. Using Figure 30 – Stringer Span Length , the letter 'I' represents:

a. 6" minimum
b. 6" maximum
c. 13'-3" maximum
d. 5" minimum throat

341. Using Figure 31 – Stairway Treads, the letter "E' represents:

a. stringer
b. treads: 2x _ or 5/4 board
c. 2x4 ledger, each side, full depth of tread; attach with (4)10d threaded nails or (4)#8 wood screws ≥ 3" long
d. 36" max

342. Using Table 7 – Minimum Tread Sizes[1] and Notes, Douglas Fir/Larch, Hem/Fir, SPF[2] need a _____ Solid Stringer.

a. 2x4
b. 2x8
c. 3x4
d. both b. and c.

343. Using Figure 31 – Stairway Treads, the letter "B' represents:

a. stringer
b. treads: 2x _ or 5/4 board
c. 18" max
d. 36" max

344. Stair handrails: The handrail must be located at least _____, but no more than _____ above the nosing of the treads – except that a volute, turnout, starting easing, or transition fitting may depart from these dimensions. Measurement must be taken from the nosing to the top of the rail.

a. 30 inches / 38 inches
b. 28 inches/ 40 inches
c. 30 inches/ 40 inches
d. 28 inches / 38 inches

345. Using Figure 32 – Stair Guards, the letter 'D' represents:

a. 30" (measured from nosing of step to top of stair guard)
b. provide blocking between stair stringers at guard post locations; toe nail with (2)10d nails each side
c. triangular opening shall not permit the passage of a 6" diameter sphere
d. 6' maximum

346. The handrail and connecting hardware must be decay− and corrosion−resistant.

a. True
b. False

347. The handrail can be attached to an interior wall acting as a barrier as shown in Figure 33.

a. True
b. False

348. Using Figure 32 – Stair Guards, the letter ‘A’ represents:

a. 30” (measured from nosing of step to top of stair guard)
b. provide blocking between stair stringers at guard post locations; toe nail with (2)10d nails each side
c. triangular opening shall not permit the passage of a 6” diameter sphere
d. 6’ maximum

349. Using Figure 33 – Stair Handrails, the letter ‘H’ represents:

a. 34”-38” to nosing of stairs
b. guard post or wall
c. 2x blocking
d. corrosion-resistant handrail hardware

350. Spiral stairs are allowed at decks when designed in accordance with the provisions of Chapter SPS 321.04.

a. True
b. False

351. Using Figure 33 – Stair Handrails, the letter ‘D’ represents:

a. 34”-38” to nosing of stairs
b. guard post or wall
c. 2x blocking
d. corrosion-resistant handrail hardware

352. The handrail must have a smooth surface with no sharp corners and must be graspable, as shown in _____.

a. Figure 32
b. Figure 33
c. Figure 34
d. Figure 35

353. Using Figure 33 – Stair Handrails, the letter 'G' represents:

a. 34"-38" to nosing of stairs
b. guard post or wall
c. 2x blocking
d. corrosion-resistant handrail hardware

Section 15: Framing Plan

354. A typical framing plan shows a bird's−eye or plan view of the joist and beam layout; the location of the ledger board, diagonal bracing or hold−down devices, posts, and footings; and the type, size, and spacing of the ledger board fasteners.

a. True
b. False

Appendix C and Attachment of Residential Deck Ledger to Metal Plate Connected Wood Truss Floor System

355. Using Table C-2 – Maximum Joist-Span Length[1] for Redwood, Western Cedars, Ponderosa Pine[2], and Red Pine[2], a 16" joist spacing on center with a 2x8 joist size requires a maximum_____ joist span length (without overhang).

a. 7'-8"
b. 10'-7"
c. 13'-0"
d. 15'-1"

356. Framing around a chimney or bay window: All members at a chimney or bay window must be framed in accordance with _____.

a. Figure C-1
b. Figure C-2
c. Figure C-3
d. Figure C-4

357. Framing around a chimney or bay window: Plan _____ is required for headers with a span length greater than 6'−0".

a. submittal
b. approval
c. both a. and b.
d. None of the above

358. Framing around a chimney or bay window: Joist hangers must each have a minimum download capacity in accordance with _____.

a. Table C-1
b. Table C-2
c. Table C-3
d. Table C-4

359. Framing Around a Chimney or Bay Window: Triple trimmer joists are _____ on each side of the header if joist spacing is 12” or 16” on center or if the trimmer joist span exceeds 8’−6”; otherwise, double trimmer joists are_____.

a. permitted/ permitted
b. required/ permitted
c. required/ required
d. permitted/ required

360. Using Table C-3 – Trimmer Joist Hanger Download Capacity, the minimum capacity, lbs. for a 2x8 joist size is:

a. 1500
b. 1380
c. 1225
d. 1050