Truss Joist I-Joist Quiz

Instructions: www.garyklinka.com

1. Print these pages.
2. Print referencing manual from my site at http://garyklinka.com/Manuals/TJ-4000.pdf or from TJI at http://www.ilevel.com/literature/TJ-4000.pdf
3. Circle the correct answer.
4. Page down to the last page for the verification forms and mailing instructions.

This 4 hour course is approved for: **Fees: $35**

1. Dwelling Contractor Qualifier Certification.
2. UDC Construction Inspector.
3. Commercial Building Inspector.

Use the Design Properties (100% Load Duration) Table from Page 3 for questions 1-7

1. What is the joist weight (lbs/ft) for a TJI 360 14" I joist?
   a. 2.8
   b. 3.0
   c. 3.3
   d. 3.5
2. What is the Maximum Resistive Moment for a TJI 360 11 7/8" I joist?
   a. 8405
   b. 7335
   c. 6180
   d. 3620
3. What is the Maximum Vertical Shear (lbs) for a TJI 360 11 7/8" I joist?
   a. 1705
   b. 1955
   c. 2190
   d. 1655
4. What is the 1 ¾" End Reaction (lbs) for a 9 ½" 210 I joist?
   a. 885
   b. 980
   c. 1080
   d. 1265
5. What is the 3 ½" Intermediate Reaction (lbs) for an 11 7/8" 560 I joist without stiffeners?
   a. 1935
   b. 2145
   c. 2460
   d. 3000
6. What is the 3 ½" Intermediate Reaction (lbs) for a 16" 560 I joist with stiffeners?
   a. 2275
   b. 2505
   c. 2815
   d. 3475
7. According to this table the joist moment design properties can be increased by a repetitive member use factor.
   a. true
   b. false

Use the Material Weight Section from page 3 for questions 8-17

8. What is the Floor Panel psf for ¾" plywood?
    a. 1.7
    b. 2.0
    c. 2.5
    d. 2.7
9. What is the Floor Panel psf for ¾" OSB?
    a. 1.7
    b. 2.0
    c. 2.5
    d. 2.7
10. What is the Asphalt Shingle psf?
    a. 1.7
    b. 2.0
    c. 2.5
    d. 2.7
11. What is the Slate (3/8" thick) psf?
    a. 14
    b. 9.0
    c. 15
    d. 2.7
12. What is the psf for 10" thick rock wool in an attic?
    a. 20
    b. 2
    c. 10
    d. 1
13. What is the psf for 10" thick glass wool in an attic?
    a. 20
    b. 2
    c. 10
    d. 1
14. What is the psf for sheet vinyl flooring?
    a. 1
    b. .5
    c. .3
    d. none of the above
15. What is the psf of a ½" thick of regular concrete floor finish?
    a. 6
    b. 6.5
    c. 12
    d. 10
16. What is the psf of a 1" thick of lightweight concrete floor finish?
    a. 8
    b. 10
    c. both a and b
    d. a only
17. What is the psf of 2 layers of ½" gypsum board on a ceiling?
    a. 2.2
    b. 4.4
    c. 5.6
    d. 2.8

Use page 4 for questions 18-24

18. What is the width of the top or bottom flange for a TJI 110 Joist?
    a. 1 ¾”
    b. 2 1/16”
    c. 2 2/16”
    d. 3 ½”
19. What is the height of the top or bottom flange for a TJI 210 Joist?
    a. 1 3/8”
    b. 1 3/8’
    c. 1 ¾”
    d. none of the above
20. What is the thickness of the web (center) for a TJI 210 Joist?
    a. ¼”
    b. 3/8”
    c. ½”
    d. none of the above
21. Using the L/480 Live Load Deflection chart, what is the maximum span for a 9 ½” 210 joist at 19.2 o. c. with 40 psf live and 10 psf dead load?
    a. 14’-2”
    b. 14’-10”
    c. 15’-3”
    d. none of the above
22. Using the L/480 Live Load Deflection chart, what is the maximum span for a 16” 560 joist at 2’ o. c. with 40 psf live and 20 psf dead load?
    a. 25’-2”
    b. 20’-11”
    c. 26”-3”
    d. none of the above
23. A web stiffener is required at intermediate supports of a continuous span joist when the intermediate bearing length is less than 5 ¼” and the span on either side of the intermediate bearing is greater than noted on the lower table.
    a. true.
    b. false
24. Assume site action with a single layer of 24” o. c. span rated, glue & nailed floor panels for deflection only. Spans shall be reduced 6” when floor panels are nailed only.
    a. true
    b. false

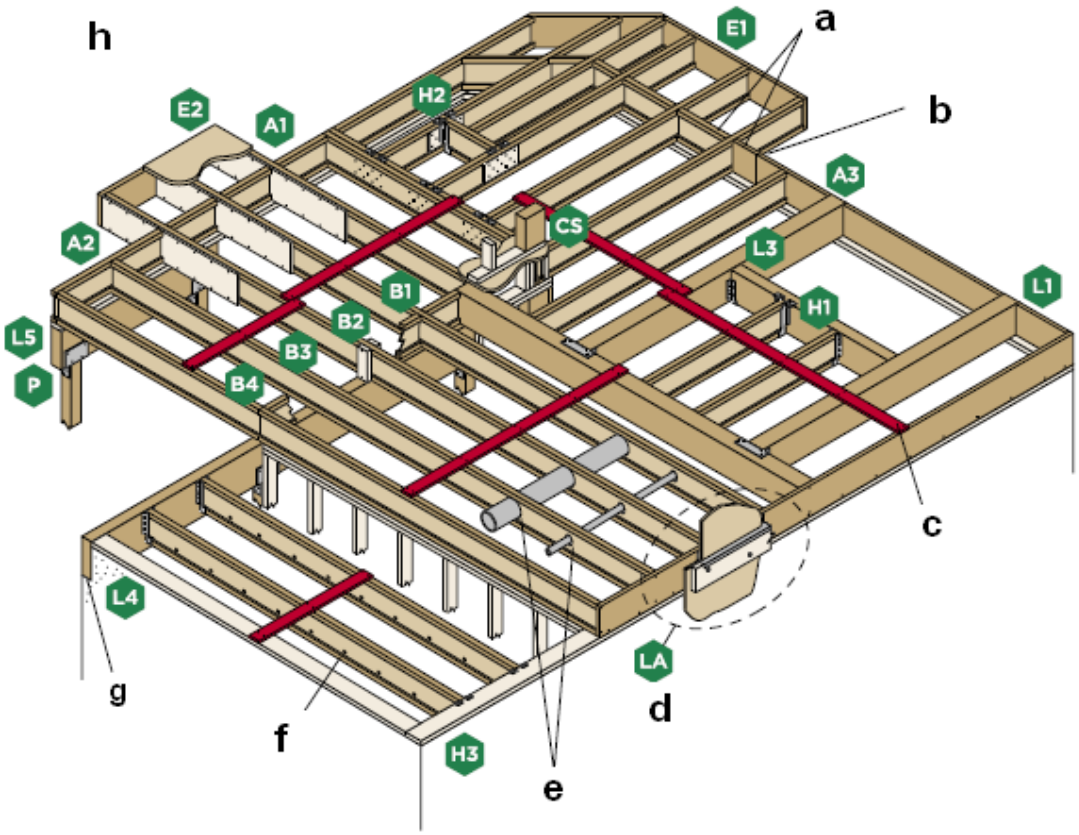
Use page 5 for questions 25-30

25. Total load for the upper chart is limited to L/240
    a. true
    b. false
26. Live load for the upper chart is based on deflection of L/480
    a. true
    b. false
27. A 14” 230 joist clear spanning 16’ would have a live load L/480 of?
    a. 95
    b. 106
    c. 119
    d. 104

28. A 14” 230 joist clear spanning 16’ would have a total load of?
    a. 95
    b. 106
    c. 119
    d. 104
29. 40 psf & 24” o. c. converted to plf would be?
    a. 40
    b. 54
    c. 64
    d. 80
30. If a live load deflection limit of L/360 is desired, divide value in Live Load column by 1.33. The resulting live load shall exceed the total load.
    a. true
    b. false

Use the lower section of page 5 to answer bracing requirements for question 31-34

31. Safety bracing lines of _____ minimum must be nailed to braced end wall.
    a. 1x3
    b. 1x2
    c. 1x4
    d. 2x4
32. Sheathing must be totally attached to each TJI joist before additional loads can be placed on the system.
    a. true
    b. false
33. Ends of cantilevers require safety bracing on both the top and bottom flanges.
    a. true
    b. false
34. The flanges must remain straight within a tolerance of ½” from true alignment.
    a. true
    b. false



Use the above diagram on the top of page 8 to fill in the blank for questions 35-42

35. Joists must be laterally supported at cantilever and end bearings by blocking panels, hangers or direct attachment to a rim board or rim joist. What letter does this represent above? _____

36. ilevel rim board joint between joists. What letter does this represent above? _____

37. Safety bracing placed at 8' on-center and extended to a braced end wall. Fasten at each joist with two 8d nails minimum. What letter does this represent above? _____

38. See exterior deck attachment on page 10. What letter does this represent above? _____

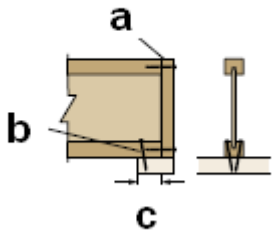
39. See allowable holes on page 11. What letter does this represent above? _____

40. 1 ½" knockouts at approximately 12" on-center. What letter does this represent above? _____

41. Protect untreated wood from direct contact with concrete. What letter does this represent above? _____

42. Silent floor joist framing does not require bridging or mid-span blocking. What letter does this represent above? _____

TJI® Joist to Bearing Plate

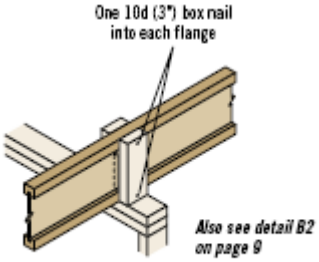


Use the above diagram from page 8 to fill in the blank for questions 43-45

43. Truss joist rim board represents what letter? _____

44. One 8d box nail on each side. Drive nails at an angle at least 1 ½" from end represents what letter? _____

45. 1 ¾" minimum bearing at end support; 3 ½" at intermediate support represents what letter? _____



46. The above application is required when a load bearing wall is above.
    a. true
    b. false

Rim to TJI® Joist

Use the above diagram from page 8 to fill in the blank for questions 47-51

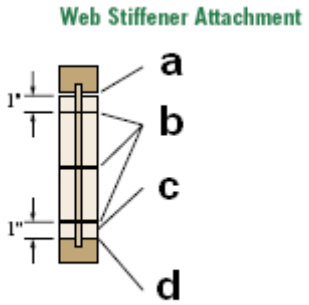
47. Truss Joist rim board or TJI 110 rim joist represents what letter above? _____

48. TJI 560 rim joist: Toenail with 10d box nails, one on each side of TJI joist flange represents what letter above? _____

49. 1 ¾" bearing represents what letter above? _____

50. TJI 560 rim joist represents what letter above? _____

51. TJI floor joist represents what letter above? _____



Use the above diagram from page 8 to fill in the blank for questions 52-55

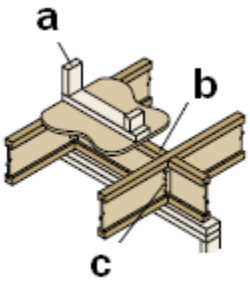
52. TJI and 360 Joist: 7/8" x 2 5/16" minimum tight represents what letter above? _____

53. Three 8d box nails, clinched represents what letter above? _____

54. Web stiffener each side TJI 110 joists: 5/8" x 2 5/16" minimum represents what letter above? _____

55. 1/8" gap minimum and 2 ¾" maximum represents what letter above? _____

56. Web stiffener material shall be?
    a. PS1 sheathing
    b. PS2 sheathing
    c. Construction grade or better
    d. all of the above
57. Web stiffener sheathing face grain must be horizontal.
    a. true
    b. false

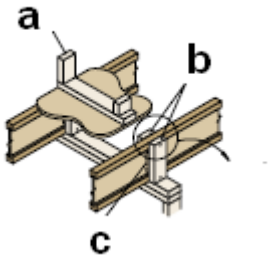


Use the above diagram from page 9 to fill in the blank for questions 58-60

58. Blocking panel represents what letter above? _____

59. Web stiffener required each side at BWI represents what letter above? _____

60. Load bearing or shear wall above represents what letter above? _____

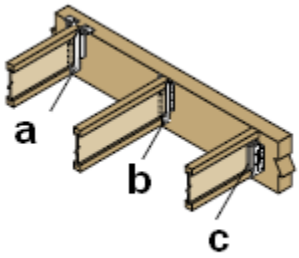


Use the above diagram from page 9 to fill in the blank for questions 61-63

61. Load bearing wall above represents what letter above? _____

62. 2x4 minimum squash blocks represents what letter above? _____

63. Web stiffeners required each side at B2W represents what letter above? _____

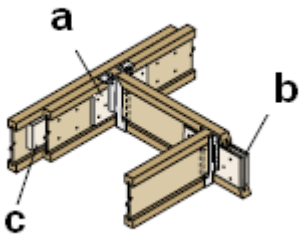


Use the above diagram from page 9 to fill in the blank for questions 64-66

64. Web stiffeners required if sides of hangers do not laterally support at least 3/8" of TJI joist top flange represents what letter above? _____

65. Face mount hanger represents what letter above? _____

66. Top flange hanger represents what letter above? _____



Use the above diagram from page 9 to fill in the blank for questions 67-70.

67. With top flange hangers, backer blocks are required only for?
    a. downward loads exceeding 250 lbs
    b. uplift conditions
    c. a & b
    d. none of the above

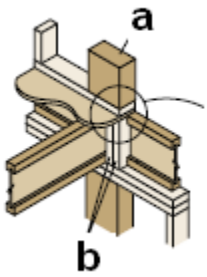
68. Backer block (both sides) of web with single TJI joist represents what letter above? _____

69. Nail the filler block with ten 10d box nails, clinched. Use 16d box nails from each side with 560 joists represents what letter above? _____

70. Install the backer block tight to top flange (tight to bottom flange with face mount hangers). Attach with ten 10d box nails clinched when possible represents what letter above? _____

71. What size filler block is required for 'c' above for a 14" 110 TJI?
    a. 2" x 6"
    b. 2" x 8"
    c. 2" x 4"
    d. ¾" plywood or osb

72. What size filler block is required for a cantilever with 11 7/8" 110 TJI?
    a. 2" x 10" by 6' long
    b. 2" x 6" by 3' long
    c. 2" x 6" by 4" long
    d. 2" x 6" by 4' long



Use the above diagram from page 9 to fill in the blank for questions 73-74

73. Load from above represents what letter above? _____

74. 2" x 4" minimum squash blocks represents what letter above? _____

75. What is the maximum spacing for fastening of floor panels to TJI flanges and TJI rim board for TJI 110 joist?
    a. 6"
    b. 12"
    c. 18"
    d. 24"

76. What is the maximum spacing for fastening of floor panels to TJI flanges and TJI rim board for TJI 230 joist?
    a. 6"
    b. 12"
    c. 18"
    d. 24"

77. What is the minimum spacing for fastening of floor panels to TJI flanges for TJI 230 joist using 8d common nails?

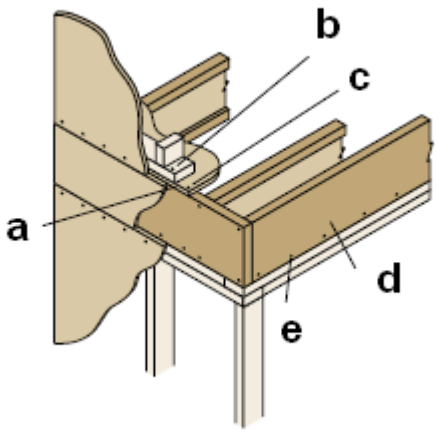
a. 6”
b. 2”
c. 3”
d. 4”

78. What is the minimum spacing for fastening of floor panels to TJI 1 ¼” rim board for TJI 230 joist using 8d common nails?

a. 6”
b. 2”
c. 3”
d. 4”

79. 14 gauge staples may be substituted for 8d nails if the minimum penetration of 1” is achieved when fastening floor panels to TJI joist or TJI rim board.

a. true
b. false



Use the above diagram from page 10 to fill in the blank for questions 80-84

80. Nail plate represents what letter above? _____

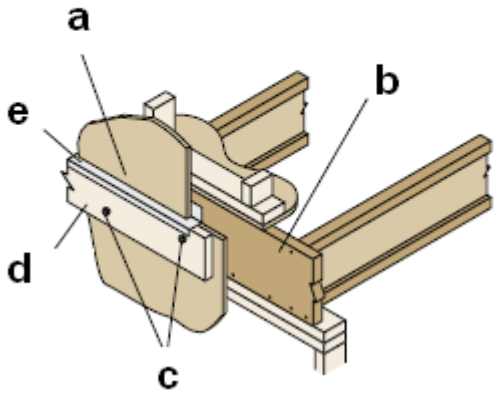
81. Truss Joist rim board represents what letter above?_____

82. Floor Panel represents what letter above?_____

83. Remove tongue and groove from floor panel edges supported by 1” e-Rim to ensure quality nailing represents what letter above? _____

84. Toe nail represents what letter above? _____

Exterior Deck Attachment



Use the above diagram from page 10 to fill in the blank for questions 85-88

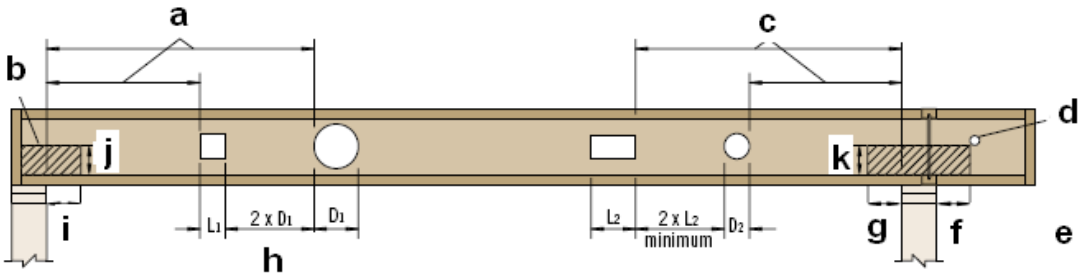
85. Treated 2x_ledger represents what letter above? _____

86. Maintain 2" distance (minimum) from edge of ledger to fastener represents what letter above? _____

87. Flashing represents what letter above? _____

88. Structural exterior sheeting represents what letter above? _____

89. Allowable load for a 3/8" diameter lag bolt attached to a 1 ¼" rim board is?
    a. 325 lbs
    b. 400 lbs
    c. 475 lbs
    d. N.A.



Use the above diagram from page 11 to fill in the blank for questions 90-95

90. Do not cut holes larger than 1 ½" in cantilever represents what letter above? _____

91. 1 ½" hole may be cut anywhere in web outside the hatched zone represents what letter above? _____

92. Minimum distance from table B represents what letter above? _____

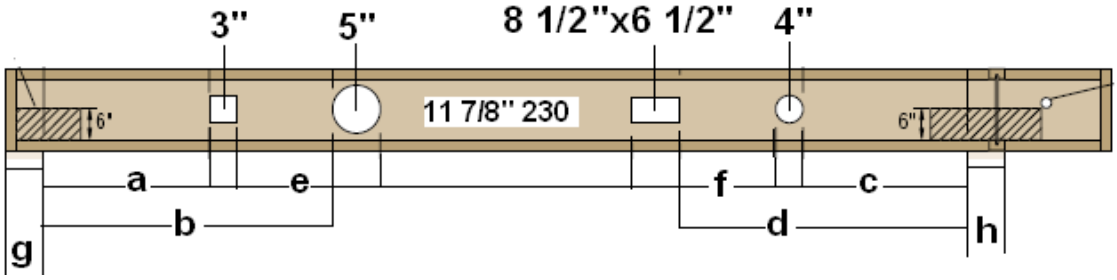
93. Minimum distance from table A represents what letter above? _____

94. No field cuts holes in hatched zones represents what letter above? _____

95. Minimum applies to all holes except knockouts represent what letter above? _____

96. Do not cut or notch flange of TJI joist.
    a. true
    b. false

97. Do not holes in cantilever reinforcement.
    a. true
    b. false



Use the above diagram from page 11 to fill in the blank for questions 98-103

98. The minimum distance for ‘a’ must be _____

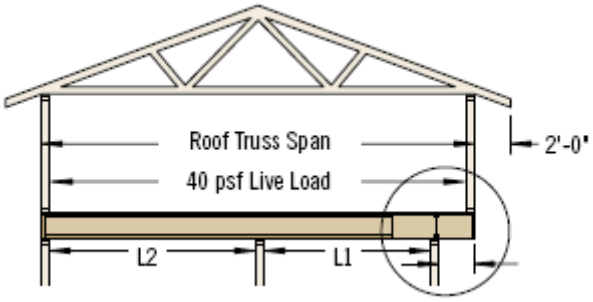
99. The minimum distance for ‘b’ must be _____

100. The minimum distance for ‘e’ must be _____

101. The minimum distance for ‘f’ must be _____

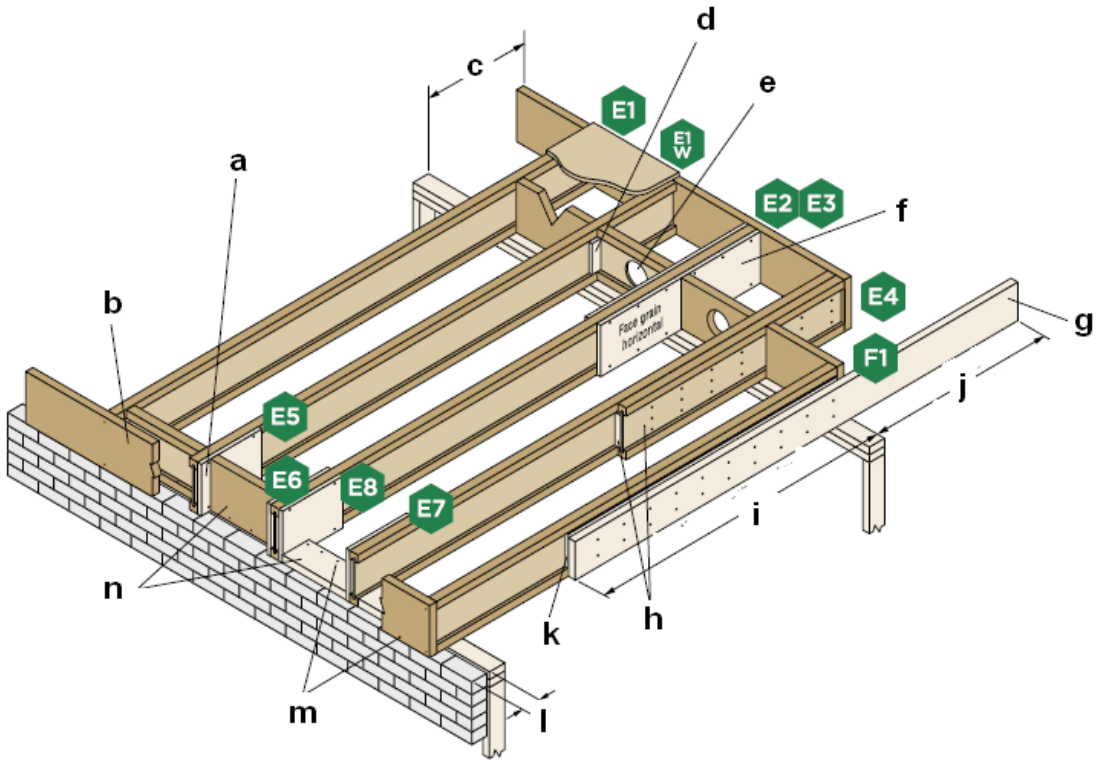
102. The minimum distance for ‘c’ must be _____

103. The minimum distance for ‘d’ must be _____



Use the above diagram from page 12 to answer question 104

104. TJI joist may be cantilevered 5” to 24” when supporting roof loads as noted above.
    a. simple or continuous span
    b. L1≤L2
    c. minimum backspan = 2x cantilever length
    d. all of the above



Use the above diagram from page 12 to fill in the blank for questions 105-118

105. Truss joist rim board, typical. Nail with 10d box nails, one each at top and bottom represents what letter above? _____

106. 12" length of ¾" reinforcement on one side at E5/E7, both sides at E6/E8. Attach to joist with one 8d common nail at each corner represents what letter above? _____

107. Wood backer represents what letter above? _____

108. 5"-24" represents what letter above? _____

109. Web siffeners required at E1W represents what letter above? _____

110. Less than 5" represents what letter above? _____

111. Cantilever length 4'-0" maximum (uniform loads only) represents what letter above? _____

112. 1 ½ times the cantilever length represents what letter above? _____

113. Nails with connections equivalent to floor panel schedule (E7 and E8) represents what letter above? _____
_____

114. Blocking panel between each joist. Full depth vertical blocking at E5 and E6, horizontal blocking at E7 and E8 represents what letter above? _____

115. 8" diameter maximum hole for 11 7/8"-16" deep blocking panels; 6" diameter maximum for blocking panels 9 ½" deep or shorter than 12" long. Do not cut flanges represent what letter above? _____

116. 4’-0” length of ¾” reinforcement on one side at E2, both sides at E3. Attach to joist with 8d common nails at 6” on-center. When reinforcing both sides, stagger nails represents what letter above? _____

117. Nail through 2x_ wood backer and TJI joist web with 2 rows 10d common nails at 6” on-center, clinched represents what letter above? _____

118. 6’-0” length of TJI joist reinforcement and filler block at E4. Attach to joist web with 3 rows 10d common nails at 6” on-center, clinched represents what letter above? _____

119. Do not use sawn lumber for rim board when using TJI joists.
   a. true
   b. false

120. TJI joists are intended for dry use applications.
   a. true
   b. false

I Joist Quiz

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119 a b c d
120 a b c d

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1. Test & answer sheets.
2. Fill out this form below completely.
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----------Educational Course Attendance Verification Form ----------

Attendee's Name_____Date_____

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Credential Number_____Phone#_____

Course Title and Name_____I Joist Quiz_____

List the name of each credential held by attendee_____

_____Credited Hours_____4 hrs_____

Email address_____Fax#_____

To be completed by GaryKlinka.com

Course Password_____Course ID#_____8485_____

Attendee passed the course with a greater than 70% score on Date_____

Instructor Signature_____