

LEVEL I

CHAPTER 3

WORKSHEET

1. What is the appropriate occupancy classification for a university building constructed to accommodate offices, classrooms and non-hazardous research laboratories?
 - a. Group I
 - b. Group B
 - c. Group E
 - d. Group H

2. A manufacturing building contains a combustible storage, that presents a physical hazard is _____ occupancy classification?
 - a. Group I
 - b. Group R
 - c. Group E
 - d. Group H

3. A reformatory is constructed with Use Condition 1 Restraint. What is the occupancy classification?
 - a. Group B
 - b. Group R
 - c. Group M
 - d. Group R3

4. A restaurant with an occupant load of 86 people shall be classified as _____ group _____?
 - a. M
 - b. A-2
 - c. A-1
 - d. B

5. Child care facilities, which accommodate children who stay less than 24 hours per day, shall be classified as group ____?
- a. E
 - b. B
 - c. R
 - d. A
6. Dormitory facilities, which accommodate six or more persons of more than 21/2 years of age who stay more than 24 hours a day, shall be classified as group ____?
- a. R1
 - b. E
 - c. R2
 - d. B

LEVEL I CHAPTER 3 ANSWER KEY

1. B. 304.1
2. D. 307.1
3. B. 310.1 & 308.4.1
4. B 303.1
5. A 305.2
6. C 310.1

Residential

CHAPTER 3

WORKSHEET

1. Openable windows or doors are not required in sleeping rooms when mechanical ventilation is installed.
 - a. True
 - b. False
2. Bathrooms must be provided with ventilation by a:
 - a. 2 sq. ft. window
 - b. mechanical ventilation system
 - c. 3 sq. ft. window, one half of which is openable
 - d. b or c.
3. Exterior walls located four feet from the property line must be rated at one-hour and may have unlimited openings.
 - a. True
 - b. False
4. Garages shall be separated from the residence and its attic by $\frac{1}{2}$ " gypsum or its equivalent applied to _____.
 - a. either side of the wall
 - b. garage side of wall
 - c. both a and b.
 - d. neither a nor b
5. Dwelling units in two-family dwellings:
 - a. must have a 45-minute separation
 - b. must have a one-hour separation
 - c. are not required to have any separation.
 - d. must have 4 hour separation

6. Shower and bath areas, floors and walls shall be finished with nonabsorbent surface to a height of not less than _____ feet above the floor.
- a. 6
 - b. 4
 - c. 8
 - d. not required
7. A 12 X 14 ft. storage building located 2ft from the property line _____.
- a. must have a one hour protected wall
 - b. must have a two hour protected wall
 - c. is not required to have protection
 - d. may have unprotected openings
8. A basement with a habitable area is required to _____.
- a. have an emergency egress door
 - b. have an emergency egress window
 - c. either a or b
 - d. none of the above

Residential

CHAPTER 3

ANSWER KEY

1. B Sec. 310.1
2. D Sec. 303.3
3. B Table 302.1, amended 6/1/13
4. B Table 302.6
5. B Sec. 302.3
6. A Sec. 307.2
7. A Sec 302.1; 101.2.1
8. C Sec 310.1

RESIDENTIAL

CHAPTER 4

WORKSHEET

1. Chapter four applies to _____.
 - a. the design and construction of the foundations for one and two family dwellings
 - b. the drainage of foundations
 - c. the construction of masonry and wood foundations
 - d. all of the above

2. An example of an expansive soil is _____.
 - a. silty sand
 - b. concrete
 - c. high plasticity organic clay
 - d. Group I soils

3. Wood foundations shall be _____.
 - a. designed and installed in accordance with this code
 - b. designed and installed per NFPA Technical Report Number 7
 - c. installed directly on grade
 - d. never required to be waterproofed

4. Concrete for the construction of carport slabs shall _____.
 - a. have a minimum compressive strength = 2500 PSI
 - b. have 52 pounds of cement per cubic foot of concrete
 - c. be air entrained
 - d. be reinforced

5. Footings shall _____.
 - a. have a perfectly level top surface
 - b. have a bottom slope not exceeding 1 unit in 10 units
 - c. be 8" deep for a 3-story house
 - d. be 12" minimum in width for a one-story house with an 8" foundation wall

6. The grade away from a foundation must fall at least 6 in. within the first _____ feet.
- 10
 - 12
 - 14
 - 16
7. A reinforced concrete basement wall 8" thick and 8' high with 6' of unbalanced fill in group II soils must _____.
- be 10" minimum thickness
 - have No. 5 vertical bars at 48" O.C.
 - have 2 No. 3 in the upper 12" of the wall
 - be designed in accordance with accepted engineering practices
8. A house is to be built on a sloping site. The house is to be 39' long. What is the maximum change at the bottom of the footing without using a stepped footing?
- 3' 6"
 - 3' 11"
 - 4' 4"
 - 4' 6"
9. A house foundation has been built but the top slopes. The foundation is 39' long. What is the maximum change in elevation that does not require leveling with masonry units with full mortar joints?
- 1 7/8"
 - 2 1/4"
 - 2 1/2"
 - 3 3/4"
10. A foundation wall is to be built that will be 7' 6" tall. There will be 1 ft., 6 inches on one side and 6 ft. of fill on the other side. Which of the following is the thinnest acceptable foundation wall? The soil and back-fill are group II material.
- 8" hollow masonry ungrouted
 - 6" solid masonry units
 - 10" hollow masonry ungrouted
 - 14" rubble stone wall
11. A contractor is planning to build a 2-story house in soil with 2,000 psf bearing capacity. What is the minimum foundation thickness required for an un-reinforced spread footing?
- 6 inches
 - 8 inches
 - 9 inches
 - 10 inches

RESIDENTIAL

CHAPTER 4

ANSWER KEY

1. D 401, 402, 403
2. C Table 405.1
3. A 402.1
4. C Table 402.2 & Note d & Section 402.2
5. B 403.1.5
6. A 401.3
7. B Table 404.1.1(2)
8. B 403.1.5
 $39' / 10 = 3.9'$
Convert 0.9 feet to inches- $.9' \times 12'' = 10.8''$ (round up) = 11''
9. A 403.1.5
 $39 / 10 = 3.9 \times .5 = 1.95$ or $1 \frac{7}{8}''$
10. C Table 404.1.1(1)
11. B Figure 403.1(1)

RESIDENTIAL CHAPTER 5 ANSWER KEY

1. B R502.5(1)
2. B TABLE R502.5(1)
3. C TABLE R502.5(1)
4. D TABLE R502.3.1(2)
5. C TABLE R502.3.3(1)
6. A TABLE R502.3.3(2)
7. C TABLE R502.3.3(2)
8. B R505.1.2 #1
9. B TABLE R505.3.2(1)

Level I

Chapter 5

Worksheet

1. The allowable area for a business (B), type V-B construction, unsprinklered, one story building built on the property line is _____ sq. ft.
 - a. 6,000
 - b. 12,000
 - c. 9,000
 - d. 18,000

2. What is the maximum height of an educational occupancy of type IV construction and is unsprinklered?
 - a. 80 ft.
 - b. 90 ft.
 - c. 65 ft.
 - d. 55 ft.

3. The maximum area limit of a two-story residential (R1) building, Type III-B unsprinklered, is _____ square feet.
 - a. 12,000
 - b. 16,000
 - c. unlimited
 - d. None of the above

4. The maximum area per floor of a Group I-2 building, Type II-B, two-story, sprinklered is _____ square feet.
 - a. 11,000
 - b. 22,000
 - c. unlimited
 - d. None of the above

5. Height modifications are allowed in all occupancies except ____.
- a. Business
 - b. Mercantile
 - c. Hazardous
 - d. Allowed in all of the above occupancies
6. What is the allowable area for an F-1 occupancy with Type III-B construction and no area increase?
- a. 12,000 sq. ft.
 - b. 14,500 sq. ft.
 - c. 19,000 sq. ft.
 - d. 23,500 sq. ft.
7. The clear height above and below the mezzanine floor construction shall not be less than _____.
- a. 6 ft., 8 inches
 - b. 7 ft., 0 inches
 - c. 7 ft., 6 inches
 - d. 8 ft., 0 inches
8. A Group R-1 occupancy of Type III-B construction, 3 stories in height, sprinklered has an allowable height of _____.
- a. 55 feet
 - b. 65 feet
 - c. 75 feet
 - d. 60 feet

Level I

Chapter 5

Answer Key

1. C TABLE 503
2. C TABLE 503
3. B TABLE 503
4. B 506.3
5. C 504.2, 506.3
6. A TABLE 503
7. B 505.1
8. A 504.2

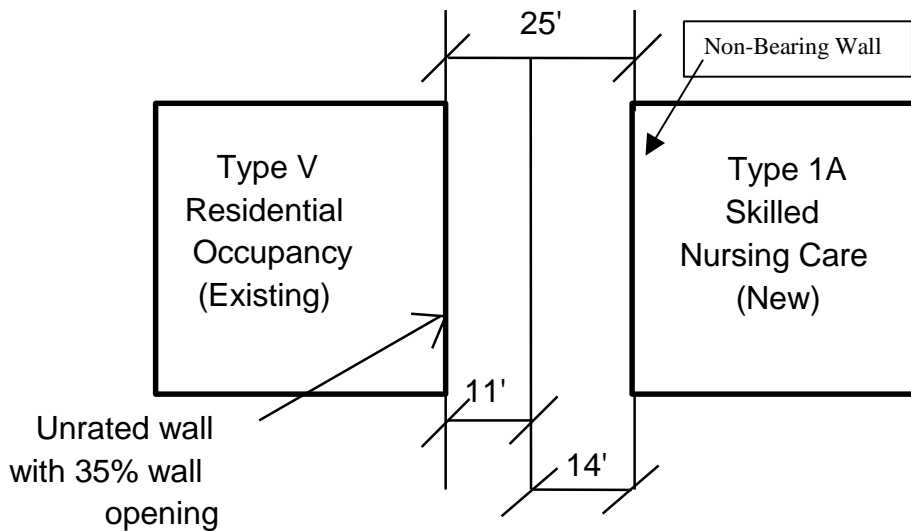
Level I

Chapter 6

Worksheet #1

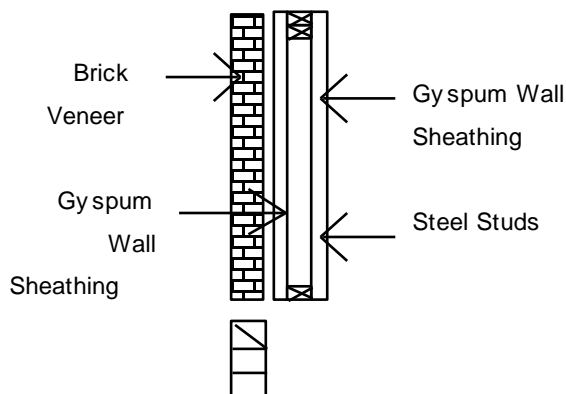
Table 601 & 602 Examples

1. Given the following:



What is the required rating of the non-load bearing wall of the skilled nursing center?

2. Given the following exterior wall section, indicate the type(s) of construction to which it can be applied.



- Type I
- Type III
- Any type

3. A two story Type II-B 1 hr. protected school is proposed. During value engineering, a fire retardant treated roof system is presented to you for approval. Is this roof system acceptable?
- a. yes
 - b. no
4. Partitions dividing portions of offices occupied by one tenant only, and which do not establish a corridor serving an occupant load of _____ or more may be constructed of fire-retardant treated wood up to 6 feet in height.
- a. 10
 - b. 30
 - c. 50
 - d. 100
5. Roof framing splice plates in type IV construction shall be no less than _____ inches in thickness.
- a. 3
 - b. 4
 - c. 5
 - d. 6
6. What is the lowest fire resistive rating for a beam that supports only a roof that is 25 feet above the floor below in a mercantile occupancy of type I-A construction?
- a. 0
 - b. 1
 - c. 1.5
 - d. 2
7. A type I-B building with a girder supporting a floor only shall have a fire resistive rating of _____ hour(s).
- a. 0.5
 - b. 1
 - c. 1.5
 - d. 2

8. Given a Type I building, four stories in height with 30 feet of open space to property lines; what is the minimum type of material for exterior non-bearing walls?
- a. non-combustible
 - b. fire-retardant
 - c. steel studs
 - d. conventional lumber
9. Given a two-story, Type I building; wood trusses can be used if _____.
- a. of conventional lumber
 - b. of fire retardant lumber
 - c. of non-combustible materials
 - d. spaced 2 feet on center
10. Fire retardant partitions can be used in _____.
- a. Type V construction only
 - b. all types of construction
 - c. Type IV only
 - d. Type I & II construction only

Level I

Chapter 6

Answer Key #1

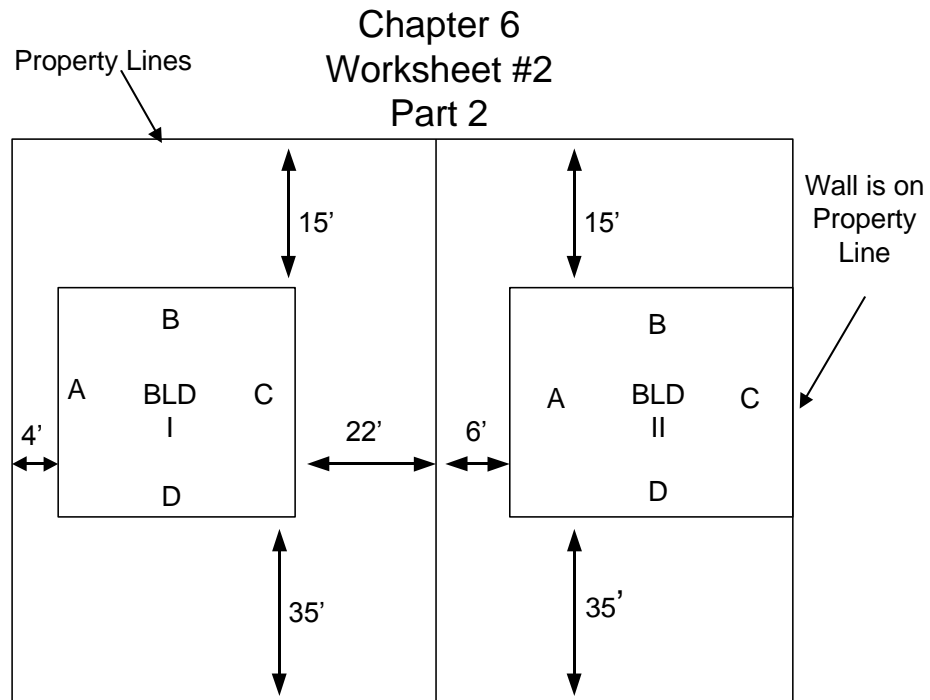
1. 1 HOUR TABLES 601 & 602
2. C SECTION 602
3. A 603.1 (1.3)
4. B 603.1(11)
5. A 602.4.3
6. C TABLE 601 NOTE B
7. D TABLE 601
8. B 603.1(1.2)
9. B 603.1(1.3)
10. B 603.1.11

Level I

Chapter 6

Worksheet #2

Table 601 & 602 examples:
 (Assume all walls are exterior load bearing)



Case I
 Building I Building II
 Type V-B Type V-B
 Group M Group F-2
 Party Wall @ line

Wall	Fire	Wall	Fire	
		Rating	Rating	
A		_____	A	_____
B		_____	B	_____
C		_____	C	_____
D		_____	D	_____

Case II

Building I Building II
Type II-B Type III-A
1 Story 3400 Sq. Ft. Group S-2
Group S-1 No Party wall @ line

Wall	Fire	Wall	Fire	Rating	Rating
	A	_____	A	_____	
	B	_____	B	_____	
	C	_____	C	_____	
	D	_____	D	_____	

Level I

Chapter 6

Answer Key #2

Table 601 & 602 Examples:
 (Assume all walls are Exterior Load Bearing)

Case I

Building I Building II
 Type V-B Type V-B
 Group M Group F-2

Party Wall @ line			
Wall	Fire	Wall	Fire
Rating		Rating	
A	<u>2</u>	A	<u>1</u>
B	<u>0</u>	B	<u>0</u>
C	<u>0</u>	C	<u>2</u> **
D	<u>0</u>	D	<u>0</u>

** Table 602 footnote C, Table 706.4

Case II

Building I Building II
 Type II-B Type III-A
 1 Story 3400 Sq. Ft. Group S-2

Wall	Fire	Wall	Fire
Rating		Rating	
A	<u>2</u>	A	<u>2</u> **
B	<u>0</u>	B	<u>2</u>
C	<u>0</u>	C	<u>2</u>
D	<u>0</u>	D	<u>2</u>

** Table 601 (602 footnote a)

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CHAPTER 6

WORKSHEET

1. What materials are allowed when fire blocking is required in wood frame construction?
 - a. paint grade caulk
 - b. 2 inch nominal lumber
 - c. ¼ inch lumber
 - d. none of the above

2. What is the nailing schedule requirement for securing a stud to the sole plate?
 - a. 3-8d or 2-16d
 - b. 3-16d
 - c. 3 -12d or 2-16d
 - d. 19/32" staples

3. Not considering exceptions, what is the maximum percent of notching that is allowed in a non-load bearing partition wall?
 - a. 65%
 - b. 35%
 - c. 25%
 - d. 40%

4. What is the maximum stud spacing for 2 x 4 studs used in the first floor exterior wall in a two story dwelling?
 - a. not allowed
 - b. 24" O.C.
 - c. 12" O.C.
 - d. 16" O.C.

5. What is the allowable header span with the following assumptions: 28 foot wide house; 20 psf live load; #2 spruce pine fir? Using: 2-2x6 supporting a roof and ceiling.
 - a. 6' 10"
 - b. 6' 7"
 - c. 4' 8"
 - d. 13' 8"

6. What is the minimum embedding requirement for wire type masonry wall ties?
 - a. 6"
 - b. 3"
 - c. 1 ½"
 - d. 2"

7. Plywood installed as wall sheathing with a span rating of 32/16 shall have studs with a maximum spacing of which of the following?
- a. 16" b. 32" c. 24" d. 48"
8. Which of the following is a correct method of obtaining lateral bracing for exterior and foundation wall panels of frame construction?
- a. Structural sheathing, 1 inch by 4 inch brace or approved metal strap.
b. Plywood panels, gypsum, x-bracing
c. OSB, green board, blocking
d. None of the above
9. Steel wall framed buildings shall not exceed _____ feet in height per story.
- a. 8 b. 12 c. 10 d. 15

Residential

Chapter 6

Answer Key

1. B R602.8 references to R302.11
2. B Table R602.3(1)
3. D Figure R602.6 #1
4. D R602.2.3(5)
5. C Table R502.5(1)
6. C R607.3(1)
7. A Table R602.3(3)
8. A Table R602.10.2
9. C 603.3.2

Level I

Chapter 7

Worksheet

1. What is the opening protection required for a three story office building mechanical shaft?
 - a. 1 hour.
 - b. 1.5 hours
 - c. 3 hours
 - d. 20 minutes

2. What is the opening protection required for a door to a bath room off a corridor with no electric heat and 1 hour walls surrounding the bath room?
 - a. 20 minutes
 - b. 0.75 hour
 - c. 45 minutes
 - d. none required

3. What is the required rating of an opening protective that is separated 12 feet from the property line in an office building of Type VB construction?
 - a. 20 minutes
 - b. 0.50 hours
 - c. 0 hours
 - d. 1 hour

4. What is the maximum size of wired glass for 1 hour-rated doors in an exterior wall?
 - a. none
 - b. 100 square inches
 - c. 1296 square inches
 - d. the amount that was tested in the assembly

5. What is the maximum size of wire glass in a .75 hour door?
 - a. none
 - b. 100 square inches
 - c. 1296 square inches
 - d. the amount that was tested in the assembly

6. What is the maximum size of wire glass for a 20 minute rated door?
 - a. not limited
 - b. 100 square inches
 - c. 1296 square inches
 - d. the amount that was tested in the assembly

7. What is the approved NFPA standard for fire doors?
 - a. NFPA 80
 - b. ASTM E-119
 - c. ASTM E-84
 - d. NFPA 13

Level I

Chapter 7

Answer Key

1. A TABLE 715.4
2. D TABLE 715.4
3. C TABLE 602
4. B TABLE 715.5.4
5. C TABLE 715.5.4
6. A TABLE 715.5.4
7. A 715.4

Residential

Chapter 7

Worksheet

- When is 3/8 inch gypsum board not allowed to be installed?
 - on ceilings supporting insulation
 - on ceilings with water based texture finish
 - both a & b
 - neither a nor b
- What is required behind wood veneer or hardboard paneling less than 1/4 inch nominal thickness?
 - 1/4" gypsum board
 - 3/8" gypsum board
 - next size larger rafter
 - no special support required
- What is the rafter requirement when supporting masonry veneer?
 - single rafter
 - triple rafter
 - next size larger rafter
 - no special support required
- What is the maximum lintel span when a 3 1/2" x 3 1/2" x 1/4" steel angle lintel is supporting brick veneer?
 - 10'
 - 8'
 - 6'
 - 4'
- What is the minimum air space requirement between masonry veneer and the wall sheathing?
 - 1"
 - 2"
 - 4"
 - none required
- What is the screw spacing when installing 1/2 inch gypsum vertically when the studs are spaced 24 inches on center?
 - 6"
 - 7"
 - 8"
 - 12"

Residential

Chapter 7

Answer Key

1. C Table 702.3.5 footnote d
2. B 702.5
3. B 703.7.2 and Figure 703.7(A)
4. C Table 703.7.3
5. A 703.7.4.2
6. D Table 702.3.5

CHAPTER 8

LEVEL I

WORKSHEET

1. Class _____ interior wall coverings have a flame spread rating of 0-25 and smoke developed of 0-450.
 - a. A
 - b. B
 - c. C
 - d. None of the above

2. In places of worship, wood shall be prohibited for ornamental purposes.
 - a. True _____
 - b. False _____

3. Class B interior wall coverings have a flame spread rating of ____ and smoke developed rating of ____.
 - a. 26-80; 0-400
 - b. 26-80; 0-400
 - c. 26-75; 0-450
 - d. None of the above

CHAPTER 8

LEVEL I

ANSWER KEY

- 1. a 803.1
- 2. b Table 803.9 (F)
- 3. c 803.1

RESIDENTIAL

CHAPTER 9

WORKSHEET

- Asphalt shingles may be applied to a roof with a minimum slope of _____ or greater.
 - 4/12
 - 7/12
 - 2/12
 - 12/12
- Open valley flashing lined with metal for asphalt shingles shall be a minimum width of _____.
 - 12"
 - 24"
 - 16"
 - None of the above
- When securing slate shingles, one must use _____ fasteners per slate.
 - 2
 - 3
 - 4
 - 5
- Wood shingles shall be laid with a side lap not less than _____ inches between joints in courses.
 - 1 1/2
 - 1 1/3
 - 1
 - 3/4
- Valley flashing for wood shakes shall be a minimum _____ gage corrosion resistant metal.
 - 18
 - 24
 - 26
 - 30

6. Existing roof coverings must be removed under which of the following conditions:
 - a. The existing roof or roof covering is water soaked or deteriorated to the point of being unacceptable as a base for additional roofing.
 - b. The existing roof covering is wood shake, slate, clay or cement tile.
 - c. The existing roof has two or more layers of any type roofing.
 - d. Any of Above.

RESIDENTIAL CHAPTER 9 ANSWER KEY

1. C R905.2.2
2. B R905.2.8.2 (1)
3. A R905.6.5
4. A R905.7.5
5. C R905.8.8
6. D R907.3

Level I

Chapter 9

Worksheet

1. Automatic fire sprinklers are not required for:
 - a. Basement areas with less than 1,500 sq. ft.
 - b. buildings with suitable access on at least one side of each story above grade.
 - c. nightclubs and lounges less than 500 sq. ft. when located in a basement.
 - d. Both a & b

2. Automatic sprinklers are required anytime a Group M occupancy with combustible materials on display for public sale and the fire area exceeds ____ sf.
 - a. 12,000
 - b. 14,000
 - c. 18,000
 - d. 20,000

3. Automatic sprinkler systems must be monitored by a supervising station, unless they are limited area systems serving fewer than ____ sprinklers.
 - a. 20
 - b. 19
 - c. Both a & b
 - d. Neither a or b

4. All smoke detectors in Group R-1 occupancies are required to be installed in the following areas:
 - a. at least one per story within the sleeping unit
 - b. one in every sleeping room or area
 - c. one outside of every sleeping room in the means of egress
 - d. all of the above

5. In buildings where a fire alarm system is required, visible alarm notification appliances are not required in the following _____.
 - a. public areas, like a lobby
 - b. common areas like a break room
 - c. in exits as defined in 1002.1
 - d. in building alterations where no fire alarm system work occurs

6. An automatic sprinkler system shall be installed in rubbish and linen chutes in the following locations _____.
 - a. terminal rooms
 - b. top of the chute
 - c. chutes three or more stories tall shall have additional accessible sprinkler heads
 - d. all of the above

7. In new and existing buildings protected with quick response sprinklers, it is acceptable to eliminate portable fire extinguishers in _____.
 - a. Group A
 - b. Group S
 - c. Group B
 - d. Group I

8. Stages over 1,000 sf in area shall be equipped with a _____ wet standpipe system with 1 ½ inch and 2 ½ inch connections on _____ side(s) of the stage.
 - a. Class I, one
 - b. Class II, two
 - c. Class III, one
 - d. Class III, each

9. Manual pull stations for commercial cooking systems shall be near the _____, positioned _____ feet from the exhaust system.
 - a. deep fat fryer, 5
 - b. means of egress, between 10-20
 - c. 10 burner range, 14
 - d. kitchen, 40

10. Wiring and controls for operation and control of smoke exhaust fans shall be _____.
 - a. protected against temperatures over 1,000 degrees F
 - b. accessible to the fire service from the exterior
 - c. connected ahead of the main disconnect
 - d. all of the above

Level I

Chapter 9

Answer Key

1. D 903.2.11.1
2. A 903.2.7
3. A 903.4 EXCEPTION #2
4. D 907.2.11.1
5. C 907.5.2.3 EXCEPTION #2
6. D 903.2.11.2
7. C 906.1 #1 EXCEPTION
8. D 905.3.4
9. B 904.11.1
10. D 910.4.4

RESIDENTIAL

CHAPTER 10

WORKSHEETS

1. Masonry chimneys shall be supported on masonry or concrete foundations at least _____ thick and extend at least _____ beyond each side of the chimney.
 - a. 12", 18"
 - b. 12", 24"
 - c. 12", 12"
 - d. 24", 12"

2. Masonry fireplaces shall be supported on concrete footings at least _____ thick and extending _____ beyond each side of the fireplace.
 - a. 12", 18"
 - b. 12", 24"
 - c. 12", 12"
 - d. 24", 12"

3. The maximum slope of a prefabricated smoke chamber shall be no more than _____ from the vertical.
 - a. 15 degrees
 - b. 30 degrees
 - c. 45 degrees
 - d. 60 degrees

4. Chimneys shall extend at least _____ higher than any portion of the building within _____.
 - a. 2', 10'
 - b. 4', 8'
 - c. 5', 10'
 - d. 8', 8'

5. Clay flue liners for use with residential-type appliances in masonry chimneys shall be no less than _____ in thickness.
 - a. 1/2 inch
 - b. Comply with ASTM C 315
 - c. 3/4 inch
 - d. 1 inch

6. Wood framing members on the interior of a masonry fireplace shall be kept at least _____ from the rear, and masonry chimneys on the exterior of a building shall be at least _____.
 - a. 4", 4"
 - b. 2", 1"
 - c. 6", 3"
 - d. 1", 2"

13. Chimneys for use with factory-built fireplaces shall comply with _____.
- a. UL 103
 - b. UL 127
 - c. UL 959
 - d. UL 1777
14. Factory-built chimneys for medium-heat appliances producing flue gases having a temperature above _____, measured at the entrance to the chimney shall comply with _____.
- a. 212 F, UL 127
 - b. 500 F, UL 1777
 - c. 32 F, UL 103
 - d. 1000 F, UL 959
15. The exterior air outlet shall be located in the back or sides of the firebox chamber or within _____ inches of the firebox opening on or near the floor.
- a. 6
 - b. 18
 - c. 12
 - d. 24

RESIDENTIAL CHAPTER 10 ANSWER KEY

1. C R1003.2
2. C R1001.2
3. C R1001.8.1
4. A R1003.9
5. B R1003.11.1 #1
6. B R1003.18
7. C R1001.11 Exception #4
8. B R1003.15.1 Option 1
9. C Figure R1003.15.2
10. C Table R1003.20
11. D R1003.9
12. D R1001.10
13. B R1005.4
14. D R1005.6
15. D R1006.5

RESIDENTIAL

CHAPTER 11

WORKSHEETS

1. _____ county does not require a vapor barrier in the walls.
 - a. Guilford
 - b. Cabarrus
 - c. Granville
 - d. All of the above

2. A building is allowed to have _____ sf of glazing is exempt from the U-Factor and SHGC.
 - a. 15
 - b. 22
 - c. 24
 - d. 25

3. When insulating basement walls, the required R-Value shall be applied from the top of the basement wall to a depth of _____ feet below grade or the top of the basement floor.
 - a. 8
 - b. 10
 - c. 12
 - d. not required

4. Ashe county requires _____ slab perimeter insulation.
 - a. R3
 - b. R4
 - c. R6
 - d. R10

5. Mitchell county requires perimeter slab insulation _____ feet from the edge of the slab.
 - a. 1
 - b. 1.6
 - c. 2
 - d. 4

6. Up to _____ square feet of glazing area shall be exempt from U-factor requirements.
 - a. 15
 - b. 30
 - c. 45
 - d. 60

7. The minimum R value in ceilings for Macon county is _____.
- a. 18
 - b. 21
 - c. 38
 - d. 49
8. Horizontal access doors from conditioned spaces to unconditioned spaces shall be weather-stripped and insulated to an _____ minimum value, and vertical doors to such spaces shall be weather-stripped and insulated to _____.
- a. R-5, R-10
 - b. R-30, R-6
 - c. R-30, R-30
 - d. R-10, R-5
9. A minimum of _____ percent of the lamps in permanently installed lighting fixtures shall be _____.
- a. 10, LED lamps
 - b. 50, high-efficacy lamps
 - c. 25, CFL lamps
 - d. 75, high-efficacy lamps
10. For all homes, the building thermal envelope shall be durably sealed with an air barrier system to limit infiltration by the following sealing methods:
- a. Blocking and sealing floor/ceiling systems and under knee walls open to unconditioned or exterior space.
 - b. Capping and sealing shafts or chases, including flue shafts
 - c. Capping and sealing soffit or dropped ceiling areas
 - d. All of the above

RESIDENTIAL CHAPTER 11 ANSWER KEY

1. D Table N1101.2 (1)
2. A N1102.3.3
3. B N1102.2.7
4. D Table N1102.1
5. C Table 1102.1 note D
6. A N1102.3.3
7. C Table N1102.1
8. D N1102.2.3
9. D N1104.1
10. D N1102.4.1

LEVEL I

CHAPTER 12

WORKSHEET

1. An apartment combination living/dining room of 12' x 25' requires how many square feet of window minimum?
 - a. 15 sq. ft.
 - b. 30 sq. ft.
 - c. 24 sq. ft.
 - d. None of the above.

2. Chapter 12 requires that all habitable rooms except kitchens shall contain not less than _____ square feet?
 - a. 50
 - b. 60
 - c. 70
 - d. 80

3. Walls within 2 feet of urinals & water closets shall be lined to a height of _____ above the floor with non-absorbent material.
 - a. 40 inches
 - b. 42 inches
 - c. 48 inches
 - d. 60 inches

4. Which room may have a dimension of less than 7 ft.?
 - a. Living Room
 - b. Kitchen
 - c. Den
 - d. Bedroom

5. What is the minimum size of the required access opening to a crawl space?
 - a. 18" x 24"
 - b. 360 sq. ft.
 - c. 440 sq. ft.
 - d. 20" x 30"

LEVEL I

CHAPTER 12

ANSWER KEY

1. C (12 X 25 X 0.08 = 24 SQ. FT.) 1203.4
2. C 1208.3
3. C 1210.2
4. B 1208.1
5. A 1209.1

LEVEL I

CHAPTER 14

WORKSHEET

1. Masonry veneer walls may provide _____.
 - a. Ornamentation
 - b. Protection
 - c. Insulation
 - d. All of the above

2. The minimum thickness for anchored masonry veneer to provide weather protection for a building shall be not less than _____ inches.
 - a. 4 nominal
 - b. 4.625
 - c. 2.625
 - d. All of the above

3. Exterior Wall adhered veneer over wood frame shall be backed by a minimum_____ to provide a water resistive barrier.
 - a. solid sheathing
 - b. masonry walls
 - c. one layer of No. 15 felt paper
 - d. concrete

4. Wood siding type 1, 2, 3, and 4 shall have a thickness of not less than _____ inch.
 - a. 1/2
 - b. 3/8
 - c. 5/32
 - d. 1

LEVEL I

CHAPTER 14

ANSWER KEY

1. D. (1402)
2. C. (TABLE 1405.2)
3. C. 1404.2
4. D. (1405.4)

LEVEL I

CHAPTER 15

WORKSHEET

1. On one story buildings, unroofed mechanical equipment screens, fences or similar enclosures may be of combustible construction when located at least _____ ft from adjacent property lines and when not exceeding _____ ft. in. height above the roof surface.
 - A. 10, 4
 - B. 20, 4
 - C. 12, 6
 - D. 14, 8

2. When covering over wood shingles and a combustible concealed space is created, the entire existing surface shall be covered with _____.
 - A. gypsum board
 - B. mineral fiber
 - C. glass fiber
 - D. Any of the above

3. Copper shall weigh not less than _____per sq ft when used as preformed metal shingle systems roofing.
 - A. 8 oz
 - B. 12 oz
 - C. other approved materials
 - D. All of the above

4. Roof valley flashing for metal roof shingles shall extend at least _____ inches from the center line each way.
 - A. 8
 - B. 6
 - C. 4
 - D. 2

LEVEL I

CHAPTER 15

ANSWER KEY

1. B 1509.2.4 EXCEPTION 6
2. D 1510.4
3. B TABLE 1507.4.3.1
4. A 1507.5.6

LEVEL I

CHAPTER 16

WORKSHEET

1. What figure shows the basic wind speed for the determination of wind loads?
 - A. Figure 1608
 - B. Figure 1609
 - C. Figure 1609.6.2.1(1)
 - D. Figure 1610.1
2. What is the uniformly distributed live load for a corridor on the first floor of an office structure?
 - A. 80 psf
 - B. 90 psf
 - C. 100 psf
 - D. 40 psf
3. Grab bars shall be designed to resist a single concentrated load of ____ applied in any direction at any point?
 - A. 200 psi
 - B. 150 psi
 - C. 250 psf
 - D. 250 pounds
4. Vehicle barrier systems for passenger cars shall resist a minimum of which of the following.
 - A. 60,000 lbs at 1 ft 8 in. above the floor
 - B. 6,000 lbs at 1 ft. 8 in. above the floor
 - C. 2,500 lbs at 2 ft. 4 in. above the ramp
 - D. 6,000 lbs psf at 1 ft. 6 in. above the floor

LEVEL I

CHAPTER 16

ANSWER KEY

1. B. 1609.3, FIG 1609
2. C. TABLE 1607.1
3. D. 1607.7.2
4. D 1607.7.3

Level I

Chapter 17

Worksheets

1. Special inspections area required for which of the following?
 - a. smoke control systems
 - b. steel
 - c. concrete
 - d. all of the above

2. What is the correct reference standard for welding of structural steel?
 - a. AWS D1.1
 - b. AWS D1.4
 - c. ACI 318
 - d. AISC A.3.6

3. Special inspection agencies that test smoke control systems must have expertise in _____.
 - a. fire protection engineering
 - b. mechanical engineering
 - c. certification as air balancers
 - d. all of the above

4. In conducting a preconstruction load test, the tested assembly shall be considered to have successfully met the test requirements if the assembly recovers not less than _____ of the maximum deflection within _____ after the removal of the test loads.
 - a. 50, 12
 - b. 90, 24
 - c. 75, 24
 - d. 75, 12

5. What is the correct standard for joist hangers?
- ASTM D 1143
 - ASTM D 1761
 - ASTM E 72
 - ASTM E 196
6. Aluminum, vinyl and wood exterior windows and glass doors shall be labeled as conforming to _____.
- AANA/NWWAD/101/1.S.2
 - AAMA/DWWA/101/1.S.2
 - exterior door and window requirements
 - AAMA/WDMA/CSA101/I.S.2/A440
7. The information recorded shall include installation equipment used, pile dimensions, tip elevations, final depth, final installation torque and other pertinent data as required by the registered design professional for _____ foundations.
- cast-in-place deep
 - driven deep
 - helical pile
 - vertical masonry
8. In level 1 masonry construction, how often shall the construction of mortar joints be verified and inspected, prior to grouting?
- once per hour
 - once per day
 - once per wall
 - periodic
9. Sprayed fire-resistant materials shall be a minimum allowable thickness of _____ or greater.
- 1 inch
 - what the approved fire-resistance design requires
 - ¼ inch
 - 12 inches by 12 inches

10. What is the minimum height that requires special inspection for storage racks anchoring in structures assigned to Seismic Design Category D, E or F?
- a. any metal racks
 - b. in a high-piled storage facility as required in section 413.1
 - c. 6 feet
 - d. 8 feet

Level I

Chapter 17

Answer Key

1. D 1704.3, 1704.4, 1704.16
2. A 1704.3.1.1
3. D 1704.16.2
4. C 1715.3.1
5. B 1716.1.1
6. D 1714.5.1
7. C 1704.10
8. D TABLE 1704.5.1 #6 D
9. B 1704.12.4
10. D 1707.5

Level I

Chapter 18

Worksheet

1. A column carrying a load of 30 kips is to be erected on silty sand. If presumptive bearing capacities are used as design criteria, which column footing size is most appropriate?
 - a. 24" x 24"
 - b. 30" x 30"
 - c. 48" x 48"
 - d. None of the above

2. A design shows a 10 inch open ended steel pipe pile with a $\frac{1}{4}$ wall thickness. Is this permitted by the code?
 - a. Yes
 - b. No

3. Concrete in foundations shall have a specified compressive strength of not less than ____ pounds per square inch.
 - a. 3,000
 - b. 3,500
 - c. 2,000
 - d. 2,500

4. Pier and curtain wall foundations shall be permitted to be used to support Type V construction in dwellings not more than _____ stories in height.
 - a. 3
 - b. 2
 - c. 1
 - d. Not allowed

5. The minimum width of a turn down slab shall be _____ inches unless designed by an engineer.
- a. 12
 - b. 16
 - c. 8
 - d. 20
6. Plain concrete footings for Group R-3 occupancies are permitted to be a minimum of _____ inches in thickness.
- a. 4
 - b. 6
 - c. 8
 - d. 10
7. What is the maximum height of a 4-inch load bearing masonry wall supporting wood frame walls and floors?
- a. 3 feet
 - b. 4 feet
 - c. 6 feet
 - d. 10 feet
8. Foundation drains can not contain more than 10% of material that pass through a _____.
- a. #4 sieve
 - b. #6 sieve
 - c. #8 sieve
 - d. #10 sieve
9. A pile load test shall be performed if _____ shaft stress is exceeded.
- a. 200 psi
 - b. 300 psi
 - c. 400 psi
 - d. 1,200 psi

10. Steel cased piles shall not be less than _____ in diameter.
- a. 8 inches
 - b. 10 inches
 - c. 12 inches
 - d. 16 inches
11. Cast in place concrete pile shall be deigned by a registered design professional if the length of the pile exceeds _____ times the diameter.
- a. 5
 - b. 10
 - c. 25
 - d. 30
12. In driven precast concrete pile foundations, piles having a diameter of 16 inches or less shall have ties not smaller than _____.
- a. No. 3 gage
 - b. No. 5 gage
 - c. No. 6 gage
 - d. No. 7 gage
13. Retaining walls providing a vertical relief of five feet within a horizontal distance of _____ feet shall be designed by a registered design professional.
- a. 30
 - b. 50
 - c. 75
 - d. 100
14. Where a basement is considered a story above grade and the finished ground level adjacent to the basement wall is below the _____ basement floor elevation for _____ % or more of the perimeter, the basement walls and floors shall be damp proofed.
- a. 25
 - b. 50
 - c. 30
 - d. 75

15. What number and type of rebar is required for an 7.5 inch concrete foundation wall with a designlateral soil load of 60 psf/ ft, with a wall height of 8 feet and 6 feet of unbalanced fill?
- a. #4 – 43 inches on center
 - b. #5 – 43 inches on center
 - c. #6 – 43 inches on center
 - d. #8 – 43 inches on center
16. Plain concrete foundation walls with five feet of unbalanced fill against a seven foot wall sited in "SC" type soil shall be a minimum thickness of _____.;
- a. 8 inches
 - b. 7.5 inches
 - c. 10 inches
 - d. 12 inches
17. What is the minimum size of a column footing sited in sedimentary rock supporting a load of 80,000 pounds?
- a. 4.47 feet x 4.47 feet
 - b. 2.66 feet x 2.66 feet
 - c. 2 feet x 2 feet
 - d. 2.33 feet x 2.33 feet
18. What is the allowable bearing capacity of loose sand?
- a. 2,000 psf
 - b. 3,000 psf
 - c. 4,000 psf
 - d. 5,000 psf

Level I

Chapter 18

Answer Key

1. C TABLE 1806.2
2. A 1810.3.5.3.2
3. D TABLE 1808.8.1
4. B 1809.10
5. A 1809.4
6. B 1809.8, EXCEPTION
7. B 1809.10.4
8. A 1805.4.2
9. C 1810.3.5.2.4
10. A 1810..3.5.3.2
11. D 1810.3.5.2.2 EXCEPTION
12. B 1810.3.8.1
13. B 1807.2.5
14. A 1805.1.1
15. B TABLE 1807.1.6.2
16. C 1807.1.6.2, ALSO 1610.1
17. A TABLE 1806.2
18. A TABLE 1806.2

Level I

Chapter 19

Worksheet

1. In reinforced concrete, the nominal maximum size of coarse aggregate shall not be larger than _____.
 - a. $\frac{1}{2}$ the least dimension between the sides of the forms
 - b. $\frac{1}{4}$ the depth of slabs
 - c. $\frac{3}{5}$ the minimum clear spacing between individual reinforcing bars or wires, bundles of bars, or pre-stressing tendons or ducts.
 - d. per ACI 318 specifications

2. Per ACI, air entrainment is required when the concrete is located in _____.
 - a. Severe exposure
 - b. Moderate exposure
 - c. Both A & B
 - d. None of the above

3. The placement of metal reinforcement in concrete _____.
 - a. shall not be welded
 - b. shall comply with ACI 318, Section 7.5
 - c. shall not have rust or mill scale
 - d. both A and C

4. The specified compressive strength for concrete shall not be less than _____ psi.
 - a. 2,500
 - b. 3,000
 - c. 3,500
 - d. 7,500

5. In North Carolina, the minimum specified strength of concrete in basement walls exposed to moderate weathering shall be _____.
- a. 2,500 psi
 - b. 3,000 psi
 - c. 3,000 psi, air entrained
 - d. 3,500 psi, air entrained
6. Sample for strength tests of each class of concrete placed each day shall be taken not less than _____.
- a. once a day
 - b. once for each 150 cubic yards of concrete
 - c. once for each 5,000 square feet of surface area
 - d. in accordance with ACI 318
7. How many concrete cylinders are required to conduct a 28-day strength test?
- a. 1
 - b. in accordance with ACI 318
 - c. 3
 - d. 45
8. The minimum cover for #6 rebar in cast in place concrete exposed to the earth or weather is _____ inches.
- a. in accordance with ACI 318
 - b. 1.5
 - c. 0.75
 - d. 54
9. A vapor barrier is required to be installed under all slab on grade.
- a. Yes
 - b. No

10. What is the allowable service load of $\frac{3}{4}$ bolts with 5 inches of embedment in 3,000 psi concrete, 4.5 inches from the edge in shear?
- a. 3,250 pounds
 - b. 3,560 pounds
 - c. 4,275 pounds
 - d. 4,300 pounds
11. When the total volume of a given class of concrete is less than _____ cubic yards, strength tests are not required.
- a. 25
 - b. 50
 - c. 75
 - d. 100
12. Structural plain concrete bearing walls shall not be less than _____ inches in thickness.
- a. 3.5
 - b. 4
 - c. 5.5
 - d. 6
13. Special inspections shall be conducted of concrete elements of buildings and structures as required by Chapter _____.
- a. 1
 - b. 5
 - c. 10
 - d. 17
14. Where openings in walls occur with structural plain concrete, at least _____ rebar shall be No. _____ around windows and doors.
- a. one, 4
 - b. one, 5
 - c. one, 6
 - d. two, 5

15. Shotcrete shall be kept moist for at least _____ hours and shall be maintained above _____ degrees F.
- a. 12, 24
 - b. 12, 32
 - c. 24, 40
 - d. 24, 68

Level I

Chapter 19

Answer Key

1. D 1903.1, ACI 318
2. C TABLE 1904.3 NOTE B
3. B 1907.5
4. A TABLE 1904.3
5. C TABLE 1904.3
6. D 1905.6.2
7. B 1905.6.3
8. A 1907.5
9. B 1910.1 EXCEPTIONS
10. B TABLE 1911.2
11. B 1905.6.2 EXCEPTION
12. C 1909.6.2
13. D 1901.5
14. B 1909.6.3
15. C 1913.9.1, 1913.9

Level I

Chapter 21

Worksheets

1. The maximum spacing for weep holes in masonry walls is _____.
 - a. 24 inches on center
 - b. 36 inches on center
 - c. 33 inches on center
 - d. 60 inches on center

2. The minimum compressive strength for type M mortar is _____ psi.
 - a. 2,500
 - b. 1,800
 - c. 750
 - d. 350

3. The minimum thickness of masonry bearing walls more than one story high shall be ____ inches.
 - a. 6
 - b. 10
 - c. 8
 - d. 12

4. The design for lintels shall provide for a minimum support at the ends of _____ inches in length.
 - a. 2
 - b. 3
 - c. 4
 - d. 5

Level I

Chapter 21

Answer Key

1. C 2104.1.8
2. A TABLE 2103.8 (2)
3. C 2109.5.2
4. C 2104.1.5

Level I

Chapter 22

Worksheet

1. What organization writes the specification for the design fabrication and erection of structural steel?
2. What organization writes the specification for welding in building construction?
3. What are the two types of high strength bolts?
4. What does ASTM stand for?
5. What is the nominal depth of a W14 X 38 beam?
6. What is the nominal weight per linear foot of a W-14 x 38 beam?

Level II

Chapter 22

Answer Key

1. AISC
2. AWS
3. A325, A490
4. American Society for Testing Materials
5. 14"
6. 38 lb/ft

Level I

Chapter 23

Worksheet

1. What is the minimum lumber grade allowed for non-bearing studs used in light frame construction?
 - a. No. 2
 - b. No. 3
 - c. Utility
 - d. Stud

2. Which of the following are to be included with truss construction documents?
 - a. Required bearing widths
 - b. drag strut load
 - c. species of wood
 - d. All of the above

3. How many #10d common nails are required to toenail a jack rafter to a hip rafter?
 - a. 3
 - b. 4
 - c. 5
 - d. 6

4. Prefabricated wood I-joist must be designed in accordance with _____.
 - a. ASTM D 5055
 - b. ASTM D 2080
 - c. Both a and b
 - d. Neither a or b

5. Glue laminated timbers shall be manufactured and identified as required in _____ and _____.
 - a. AITC A 190.1
 - b. ASTM D 3737
 - c. Both a and b
 - d. Neither a or b

6. Wood that comes in contact with the ground or fresh water is permitted to be untreated when it is _____.
- a. continuously and entirely below the ground water level
 - b. continuously and entirely submerged in fresh water
 - c. Either a or b
 - d. Neither a or b
7. Where preservative treated wood is used in enclosed locations where drying in service cannot readily occur, the maximum moisture content shall be _____% or less before being covered.
- a. 10
 - b. 19
 - c. 7
 - d. 15
8. A building design calls for 6 X 6 wood columns resting on concrete footers in an unfinished basement. These columns must be _____ wood.
- a. preservative treated
 - b. non-preservative treated
 - c. hardwood
 - d. softwood

Level I

Chapter 23

Answer Key

1. C 2301.1.1 (3)
2. D 2303.4.1.1
3. A TABLE 2304.9.1.1
4. A 2303.1.2
5. C 2303.1.3
6. C 2304.11.4 EXCEPTION
7. B 2303.1.8.2
8. A 2304.11.4.1

Level I

Chapter 24

Worksheet

1. Tempered spandrel glass _____.
 - a. is exempt from labeling
 - b. is exempt from permanent labeling
 - c. shall be identified with a removable paper label by the manufacturer.
 - d. Both a and c

2. The following locations require safety glazing:
 - a. openings in doors through which a 3-inch sphere is unable to pass.
 - b. glazing with a glazed area exceeding 9 sq. ft. with lowest edge less than 18" above the finish floor level with a 1 1/2" horizontal member located at 30" above the floor.
 - c. glazing in storm doors.
 - d. faceted and decorative glass.

3. Sloped glass, ____ degrees or less from vertical in a window shall be designed to resist the wind loads in Chapter 16.
 - a. 8
 - b. 10
 - c. 12
 - d. 15

4. Glass located within _____ inches of a door and in the same plane of the door is considered hazardous.
 - a. 12
 - b. 16
 - c. 24
 - d. 30

Level I

Chapter 24

Answer Key

1. B 2403.1
2. C 2406.4
3. D 2404.3.1
4. C 2406.4

LEVEL I

CHAPTER 25

WORKSHEET

1. In non-bearing partitions, 1/2 inch gypsum boards may be applied either vertically or horizontally.

True _____ False _____

2. The minimum thickness of vertically erected stud less solid plaster partitions of long-length gypsum lath and gypsum board partitions shall be _____ inches.

- a. 1/2
- b. 5/8
- c. 1
- d. 2

3. In other than dwelling units, toilet and bathing room floors shall have a smooth, hard, non-absorbent surface that extends upward onto the walls at least _____ inches.

- a. 4
- b. 6
- c. 10
- d. 12

LEVEL I

CHAPTER 25

ANSWER KEY

1. TRUE TABLE 2508.2
2. D 2504.1.1
3. A 2509.1; 12010.1

LEVEL I

CHAPTER 26

WORKSHEET

1. Without exception, foam plastic must be separated from the interior of a building by a minimum of _____.
 - a. 1/2" gypsum wall board or equivalent
 - b. 1/2" plywood or equivalent
 - c. 1/4" hardboard
 - d. 3/8" oriented strand board

2. Foam plastics on foundation walls in a type II, III, IV, or V building must be separated from grade by _____.
 - a. 6" clearance
 - b. 8" clearance
 - c. an approved physical barrier
 - d. no separation required

3. Light-transmitting plastic roof panels shall not be installed in _____.
 - a. Group I-2 occupancies
 - b. Group I-3 occupancies
 - c. Group H occupancies
 - d. All of the above

LEVEL I

CHAPTER 26

ANSWER SHEET

1. A. 2603.4
2. B. 2603.8
3. D. 2607.1

LEVEL I

CHAPTER 31

WORKSHEET

1. What is the minimum clear height beneath a sign extending over public property?
 - a. 3'
 - b. 9'
 - c. 8'
 - d. 7'

2. A sign constructed in Lee County must be designed to resist what wind pressure?
 - a. 120 mph
 - b. 110 mph
 - c. 100 mph
 - d. 90 mph

3. What is the maximum horizontal projection beyond an exterior wall for a sign erected on a hip roof?
 - a. 6'
 - b. 5'
 - c. 3'
 - d. not permitted

4. What is the maximum surface area permitted for a plastic surface on an electric sign?
 - a. 120 sf
 - b. 2000 sf
 - c. 1100 sf
 - d. no maximum

5. An enclosed walkway has _____ of its perimeter enclosed.
- a. 100%
 - b. 50% or more
 - c. 50% or less
 - d. more than 50%
6. Public assembly tents must meet _____ for flame resistance.
- a. NFPA
 - b. NC Fire Prevention Code
 - c. NFPA 701
 - d. NFPA 204M
7. Membrane structures are considered temporary if they are to be in place for less than _____.
- a. 180 days
 - b. 60 days
 - c. 30 days
 - d. not permitted
8. The maximum horizontal width of a permanent canopy is _____.
- a. 10 ft.
 - b. 15 ft.
 - c. 30 ft.
 - d. unlimited

LEVEL I

CHAPTER 31

ANSWER KEY

1. C 3202.2
2. C 3107.1 AND APPENDIX H, FIG 1609
3. D APPENDIX H110.1
4. A. APPENDIX H106.1.1
5. B 3104
6. B 3103.1, EXCEPTION
7. A 3103.1
8. B 3105.5 (4)

LEVEL I

CHAPTER 32

WORKSHEET

1. Awnings, canopies, marquees, and signs with less than 15 feet clearance above the sidewalk shall not extend into or occupy more than _____.
 - a. 1/2
 - b. 3/4
 - c. 1/4
 - d. 2/3

2. Steps shall not project more than _____ and shall be guarded by approved devices not less than 3 feet high.
 - a. 12 inches
 - b. 8 inches
 - c. 16 inches
 - d. 24 inches

3. When glass is set in the sidewalk to provide light for spaces underneath, the glass shall be supported by metal reinforced concrete frames, and such glass shall be not less than _____.
 - a. 12 sq inches
 - b. 1/4 inch
 - c. 3/8 inch
 - d. 1/2 inch

LEVEL I

Chapter 32

WORKSHEET KEY

1. D 3202.3.1

2. A 3202.2.1

3. D 3202.5.2

LEVEL I

CHAPTER 33

WORKSHEET

1. If the height of construction is greater than 8' and a barrier and covered walkway are constructed, the distance of construction to lot line shall be _____ or more, but not more than _____ the height of construction.
 - a. 5 feet, $\frac{1}{3}$
 - b. 5 feet, $\frac{1}{4}$
 - c. 10 feet, $\frac{1}{2}$
 - d. 5 feet, $\frac{1}{2}$

2. For roofs and supporting structures of covered walkways, posts not less than _____ shall be provided on both sides of the roof.
 - a. 4 x 6
 - b. 4 x 4
 - c. 2 x 4
 - d. 8 x 6

3. Pedestrian barriers when using wood structural use panels of $\frac{1}{4}$ inch or $\frac{5}{16}$ inch thickness shall have studs spaced not more than _____ on center.
 - a. 16 inches
 - b. 2 feet
 - c. 2 feet 6 inches
 - d. 4 feet

4. Slopes for permanent fill shall not be steeper than _____ unit(s) vertical in _____ unit(s) horizontal.
 - a. 3, 2
 - b. 1, 4
 - c. 1, 2
 - d. 1, 3

LEVEL I

CHAPTER 33

WORKSHEET KEY

1. B Table 3306.1
2. A 3306.7 (2)
3. B 3306.6 (4)
4. C 3304.1.1

LEVEL I

CHAPTER 36

WORKSHEET

1. What is the minimum required design live load for a floating public dock?
 - a. 40 PSF or 300 lbs concentrated over 2 SF.
 - b. 30 PSF
 - c. 20 PSF or 300 lbs concentrated over 2 SF.
 - d. 20 PSF

2. Handrails are required:
 - a. For walkways, access piers, steps or ranges where the vertical drop to the mean low water level or mud line exceeds 6 ft.
 - b. Private boat docks.
 - c. Along all bulk heads.
 - d. On all boat dock ramps.

3. Round wood pilings used to support public piers shall:
 - a. Comply with the applicable provisions of Chapter 18.
 - b. Be protected against decay and termites by using naturally durable or pressure treated wood.
 - c. Be constructed using corrosion resistant fasteners.
 - d. All of the above.

LEVEL I

CHAPTER 36

ANSWER KEY

1. C 3603.3(2)
2. A 3606.6 AND 3607.1.3
3. D 3605.1

RESIDENTIAL

CHAPTER 44

WORKSHEET

1. Footings shall be reinforced with three _____ or two #5 bars at 3 inches above footings.
 - a. #4 bars
 - b. #5 bars
 - c. #6 bars
 - d. #7 bars

2. Footings are to be sized to resist uplift from piers in 120 mph wind zone supporting girders in exterior walls. What is the footing size with a girder span of 6' 0" ?
 - a. 3' 4" x 3' 4" x 12"
 - b. 2' 8" x 2' 8" x 10"
 - c. 2' 4" x 2' 4" x 10"
 - d. 3' 8" x 3' 8" x 12"

3. If glazing is more than _____ feet from a corner, the pressure from this table shall be permitted to be multiplied by _____.
 - a. 4, 0.86
 - b. 6, 0.85
 - c. 6, 0.86
 - d. 4, 0.87

4. Continuous width footings for pier and curtain wall foundations shall be a minimum of _____ inches thick and _____ wide.
 - a. 10" x 24"
 - b. 6" x 24"
 - c. 8" x 24"
 - d. 8" x 20"

5. Blocking for structural bracing shall be installed if less than _____ % of the wall length is sheathed.
 - a. 50
 - b. 25
 - c. 10
 - d. 15

6. Vertical reinforcement shall be installed on concrete slab-on-grade footings at intervals not to exceed Table 4404.1(a) and shall terminate in a _____ sole plate.
 - a. single
 - b. triple
 - c. none required
 - d. double

RESIDENTIAL CHAPTER 44 ANSWER KEY

1. A 4403.1
2. C T4403.2.1
3. D T4402 Note 2
4. C 4403.2.2
5. A 4406.2
6. D 4404.4
7. B Table 4404.1.1
8. C 4404.3
9. D 4408.2
10. A 4406.7

RESIDENTIAL

CHAPTER 45

WORKSHEET

1. What are the minimum dimensions for pilings supporting open steps if the height above grade is 32 inches?
 - a. 4 x 6
 - b. 4 x 4
 - c. 6 x 6
 - d. 8 x 8

2. The maximum allowable notch in a piling shall not exceed ____.
 - a. 4 inches
 - b. 40%
 - c. 50%
 - d. 20%

3. The maximum spacing for pilings in the non-load bearing direction without an engineered design shall be _ feet.
 - a. 10
 - b. 12
 - c. 14
 - d. 8

4. All detached accessory and out buildings are required to be fastened to which of the following
 - a. foundation
 - b. main structure
 - c. rebar
 - d. none of the above

5. What is the minimum required pile depth below natural or finished grade.
 - a. 4'
 - b. 5'
 - c. 16'
 - d. 8'

6. Floodplain is determined by land below the base flood elevation with a record of past flooding, as defined by _____.
 - a. Corp. of Engineers' maps or FEMA
 - b. The Building Code Council
 - c. The Authority having jurisdiction
 - d. a and b

7. When is bracing of pile foundations required?
- a. When the clear height from ground to sill, beam, or girder exceeds 10 feet.
 - b. When the dwelling is one story above piles.
 - c. When the dwelling is more than one story above piles.
 - d. a. and c.
8. What are the acceptable ways of placing piles?
- a. Auger
 - b. Jetting
 - c. Drop hammer
 - d. All of the above

RESIDENTIAL CHAPTER 45 ANSWER KEY

1. B 4503.3
2. C 4503.6
3. B 4503.5
4. A 4505.9
5. D 4503.4
6. D 4502
7. D 4503.6
8. D 4503.8