FIRE ACADEMY Candidate Preparation Questions Pertaining to Probationary Firefighter Reading Assignments (Cycles 1-26)

Cycle 2

Fill in the blank with the appropriate choice

Chapter 11: Intro to Fittings

- 1) What are single gates commonly and often used on? (More than one correct)
 - A) 2" outlet of a hydrant
 - **B)** Standpipe outlets
 - C) Deck guns
 - **D)** Multiversals
- The primary function of a ______ is to allow a single source of water to supply two separate hoselines.
 - A) gated wye
 - B) saimese
 - c) single gate
- 3) Curb Valve Keys are Carried by all engine and squad companies and is used to operate the curb valve that controls water flow from the water main to a hydrant. The wrench is placed over the operating nut and ______ to close.
 - A) turned clockwise
 - B) turned counter-clockwise
 - **C)** pushed down
- 4) To use the hydrant plug, maneuver the T-bolt through the 4 ½" outlet into the hydrant barrel. Place the threaded rod out through the 2 ½" outlet, centering it in the middle of the opening. Hold the T-Bolt firmly against the ______ of the hydrant barrel with one hand and turn the handle onto the threaded end of the T-Bolt with the other hand until handle is tight to the barrel. The washer must be on the ______ of the hydrant.
 - A) Inside, Inside
 - B) Outside, Inside
 - **C)** Inside, Outside
 - D) Outside, Outside

Chapter 16: Basic Ladder Ops

- 1) The general responsibility of the 1st Ladder Company to arrive is to locate the fire and determine life hazard on the ______
 - A) Fire floor
 - B) Basement
 - **C)** Floor above
 - D) Roof
- 2) The general responsibility of the 2nd Ladder Company to arrive is to search and remove victims, ventilate and check for fire extension on the _____
 - A) Fire floor
 - B) Basement
 - **C)** Floor above
 - D) Roof
- 3) The compliment of basic gear for the CAN FF weighs approximately 100 lbs. The tools for the CAN FF includes the ______ and _____
 - A) Maul, hydra ram
 - **B)** 6' hook, extinguisher
 - **C)** Axe, halligan
 - **D)** Halligan, halligan hook
- 4) The basic tools for the ROOF FF include _____, ____, and _____.
 - A) Halligan, halligan hook, Life saving rope.
 - **B)** Officers tool, C.O. detector, Thermal imaging camera.
 - **C)** Axe, Halligan, Hydra ram
 - D) Halligan, halligan hook, saw
- 5) _____ is an ongoing evaluation of the problems confronted within a fire situation. It starts with the receipt of the alarm and continues until the fire is under control.
 - A) Check-up
 - B) Monitoring
 - **C)** Size-up
- 6) Ladder Company assignments are given to each member _____.
 - A) Upon arrival at the fire scene
 - B) At roll call
 - **C)** Upon reporting for duty
 - **D)** Upon arrival at an emergency

- 7) Each member shall personally check how many of the following items after Roll Call? (more than one)
 - A) Firefighting gear
 - B) Mask
 - **C)** Pass alarm
 - D) Flashlight
 - E) Personal rope
 - F) Assigned tools
 - 8) Members shall inform their ______ of the results of their apparatus, tool and equipment inspections.
 - A) Battalion Chief
 - **B)** Senior firefighter
 - C) Officer
 - **D)** Senior firefighter on duty
 - 9) If the second Ladder Company will not arrive within a reasonable time, who is responsible to make an interior search and removal of endangered occupants above the fire?
 - **A)** 1st Ladder company
 - **B)** 1st Engine company
 - **C)** 2nd Engine company
 - **D)** 3rd Battalion Chief
 - 10) What building type represents the bulk of the FDNY's responses?
 - A) Taxpayer buildings
 - **B)** Row frame buildings
 - C) Brownstones
 - **D)** Private dwellings
 - E) Non-fireproof multiple dwellings
 - F) Vacant buildings
 - **G)** High rise office buildings
 - H) Fireproof multiple dwellings
 - **11)** Which one of the following ladder company members would not be considered part of the outside team?
 - A) Extinguisher (can)
 - B) Chauffeur
 - **C)** OV
 - D) Roof
 - 12) Which one of the following ladder company members would not be considered part of the inside team?
 - A) Officer
 - **B)** FE (irons)
 - **C)** Extinguisher (can)
 - D) OV

- 13) Which of the following are the tools of the first arriving Ladder Company Chauffeur?
 - A) Thermal Imaging Camera
 - **B)** Halligan and Halligan Hook
 - **C)** Halligan and Life Saving Rope
 - D) What he/she deems necessary to complete their assignment
- **14)** For top floor fires in some occupancies the 1st Due OV position will vary. Which of the following is a possible change in his/her procedure?
 - A) Proceed to roof with the saw
 - B) Proceed to rear with saw
 - C) Proceed to roof with life saving rope
 - D) Proceed to rear with life saving rope
- 15) In some situations, the 1st OV will take what tool in place of the halligan hook?
 - A) Thermal imaging camera
 - B) Maul
 - **C)** Pike axe
 - D) Hydra ram
- **16)** Which of the following tools has become more common in initial operations and can be utilized by any member? (more than one correct)
 - A) RAD 50
 - B) Duckbill
 - **C)** Life saving rope
 - **D)** Thermal Imaging Camera
- 17) A length of 1 ³/₄" hose weighs 22lbs., once charged, the weight increases to approximately 52lbs. A length of 2 ¹/₂" hose weighs 35lbs., once charged the weight increases to approximately ______ lbs.
 - A) 65lbs.
 - **B)** 75lbs.
 - **C)** 100lbs.
 - **D)** 135lbs.
- 18) What is the most serious factor at any fire?
 - A) Building construction
 - **B)** Water supply
 - **C)** Fire location
 - D) Life hazard
 - E) Weather

- **19)** The position of the Roof Firefighter in a Non-Fireproof multiple dwelling is the roof of the fire building. In what order should roof access be attempted?
 - A) Rear Fire Escape, Aerial Ladder, Interior stairs
 - B) Aerial Ladder, Adjoining Building, Rear Fire Escape
 - **C)** Adjoining Building, Aerial Ladder, Rear Fire Escape
 - D) Interior stairs, Adjoining Building, Aerial Ladder
- **20)** One of the many tasks of the Roof Firefighter is vertical ventilation. What is a true statement regarding the Roof Firefighter?
 - A) When scuttles are vented, members must recognize that this action is non-reversible.
 - **B)** If the Ladder Officer does not want initial vertical ventilation performed; the Roof Firefighter will not force open the bulkhead door.
 - **c)** If the Ladder Officer does not want initial vertical ventilation performed; the Roof Firefighter can ventilate top floor windows from roof level at top floor fires.
 - D) Never attempt to climb onto or off a bulkhead or similar type structure at a spot near or next to an open shaft or near a building wall that faces on a shaft, areaway, courtyard or street
- **21)** Beams in Old Law Tenements generally run ______ to front and rear walls. Lath is attached at right angles to the beams.
 - A) Parallel
 - B) Perpendicular
- 22) After the fire has been knocked down it is the responsibility of the first ladder company to arrive to determine if the fire is extending and where it is extending. Pulling ceilings is one of the methods in opening up concealed spaces to check for fire extension. What is true in regards to pulling ceilings.
 - A) The hook is then turned to form a right angle to the beam and the ceiling is pulled with short, sharp strokes close to the lath.
 - **B)** In close quarters firefighters shall keep their heads up to prevent injury. Eye shields shall be used
 - **C)** To make a hole low in a side wall or partition. The hook is held like a javelin before penetrating the wall. After an opening has been made, the hook should be removed. Prying with the hook will break the wooden handle.
 - **D)** Members can use handle of the hook, or the point to make small probing holes to check for extension or to allow water to flow out as opposed to pulling

Chapter 7: Handie-Talkie Care & Use

- Members are under the ______ of an Officer when they are within sight and/or hearing of the officer, OR they are working with a search line or hose line which is under the supervision of an officer. (CH 7)
 - A) Immediate supervision
 - B) Functional supervision
 - **C)** Direct supervision

- 2) When members cannot contact their officer via Handie talkie, the next contact person should be their
 - A) Incident commander (IC)
 - B) Battalion Chief
 - c) Company chauffeur
- **3)** The importance of communications between units and the Incident Commander (IC) cannot be over emphasized. However, discretion must be used. Information of a ______ nature should be communicated to the company officer while ______ information should go directly to the IC.
 - A) Routine, more serious
 - B) Serious, routine
- 4) Members operating on the roof must, among many other duties, communicate to the Incident Commander (IC) the ______ of the building and ______ showing out windows not visible from the street.
 - A) Shape, smoke
 - B) Configuration, fire
 - **C)** Height, fire
- 5) Members on the roof must also make the Incident Commander (IC) aware of any unusual heat, smoke or fire in the _____.
 - A) Cockloft
 - B) Apartment
 - **C)** Basement
 - **D)** Elevator
- 6) A Mayday transmission is an indication that a life-threatening situation has developed. If possible, the member shall press the Emergency Alert Button ensuring that the message gets transmitted at maximum wattage before giving their MAYDAY message. Which event would warrant a MAYDAY message? (More than one correct)
 - A) Collapse Feared
 - B) Structural Collapse Has Occurred
 - c) Unconscious or Life Threatening Injury to member
 - D) Missing Member
 - E) Lost or Trapped member
- 7) An Urgent transmission is used to indicate that a member has suffered a serious injury that is not immediately life threatening, or to inform members of a serious change in conditions. Which event would warrant a URGENT message? (More than one correct)
 - A) Non Life Threatening Injury
 - B) Transmission of Signal 10-70
 - **C)** Interior Attack Discontinued
 - D) Danger of Collapse
 - **E)** Fire Entering Exposure
 - F) Loss of Water
 - G) Anytime a change in condition will severely impact an operation or the safety of members

- 8) An effective HT relay must be established whether the subway station is equipped with a repeater or not. Members of the 1st truck and the Officer of the 1st engine shall be utilized when establishing a HT relay. What order will members positioned for a proper HT relay?
 - A) OV Firefighter
 - B) Truck Chauffeur
 - c) Roof Firefighter
 - D) Additional HT, if necessary
 - E) Engine Officer
 - F) Truck Officer
- 9) If the Truck Chauffeur is positioned at the bottom of the subway entrance stairs, where should the OV be if the foot of the stairs leading to the train platform is 100 yards away from the chauffeur?
 - A) Foot of the stairs leading to the train platform
 - B) Within 50 yards from the chauffeur
- **10)** To keep Handie-Talkies within range to be able to communicate with street level, which member may be able to enhance communications by moving back and forth between the top and bottom of the platform stairs?
 - A) Roof Firefighter
 - **B)** Engine Officer
 - c) OV Firefighter
 - D) Truck Officer
- **11)** The system that uses a series of numbers and letters to develop a code which is directly related to the building or occupancy the communicator is talking about is called _____.
 - A) Exposure identification
 - B) Handie talkie lingo.
 - **C)** Ease of communication.
- **12)** Buildings separated by more than ______ feet from the fire building should not be identified as exposures unless the volume of fire or complexity of the incident causes an exposure problem.
 - **A)** 15
 - **B)** 20
 - **C)** 25
 - **D)** 30
- **13)** In the identification of buildings and the surrounding properties the number ______ when facing the fire building is to the left and the number ______ indicates area to the right.
 - **A)** 2, 4
 - **B)** 1,3
 - **C)** 4,2
 - **D)** 3,1

Chapter 5: Basic Knots II

- 1) The length of measurement to tie a Bowline on a Bight is _____.
 - A) 2 arms lengths
 - **B)** $1\frac{1}{2}$ arms lengths
 - **C)** 1 arms length
 - **D)** ¹/₂ arms length
- 2) The Bowline on a Bight is a very important knot used to lower a firefighter to rescue persons trapped or lift a person from _____.
 - A) Excavations
 - B) Sewers
 - C) Both A and B
 - **D)** None of the above

Match the Name of the Knot to the picture of the knot (Questions 3-8)

- A) Slippery Hitch
- B) Clove Hitch
- C) Bowline

3)

- D) Rolling Hitch
- E) Clove Hitch and Binder on the taut part of the rope
- F) Becket Bend





4)

5)





6)





Chapter 6: Intro to Scott 4.5 Mask II

- 1) SCBA's must be inspected immediately _____ of Multi-Unit Drill.
 - A) Before the start
 - B) After the end
- 2) SCBA's must also be inspected ______ the 0900 and 1800 hour Roll Calls.
 - A) Before
 - B) After
 - **C)** During
- 3) When checking the SCBA regulator assembly make sure the manual shut off switch is depressed and the Purge valve tips is in the _____ position.
 - **A)** Up
 - B) Down
 - C) 3 O'clock
 - **D)** 6 O'clock
 - E) 12 O'clock
- 4) With Purge valve at ______ to the facepiece, align the flats of the regulator and facepiece together, insert, turn regulator _____.
 - A) 12 O'clock, ¼ turn clockwise
 - **B)** 3 O'clock, ¹/₄ turn clockwise
 - C) 12 O'clock, 1/2 turn clockwise
 - D) 3 O'clock, 1/2 turn clockwise
- 5) After finishing all SCBA checks involving airflow, turn off cylinder valve. While observing the lights on the Heads-Up Display, <u>slowly</u> open the Purge Valve releasing trapped air. The rectangular indicator lights will simulate four levels of air supply. What level does one green light represent?
 - A) ¼ full
 - **B)** ½ full
 - **C)** ³⁄₄ full
 - D) Full

Chapter 12: Well-Hole Stretch

- The use of a well-hole for stretching the hoseline allows for more rapid positioning of the line and reduces the number of lengths required. The rule of thumb is that a five story stretch up a well-hole requires about ______ length(s) of hose.
 - A) One
 - B) Two
 - C) Three
 - D) Five

- 2) The officer will look up to see if the well goes up the entire stairway. In certain stair configurations, a well exists between the ______, but the rest of the stairway does not have sufficient space to accept a charged hose line.
 - A) Basement and 1st floor
 - B) 1st and 2nd floor
 - C) 3^{rd} and 4^{th} floor
 - **D)** Top floor and bulkhead
- 3) **True or False:** When it is determined that there is a wide well-hole, the backup FF carries nozzle and lead length in the well.
- 4) If the door to the fire area is controlled and conditions on the fire floor are favorable, sufficient hose must be pulled up and flaked out on ______.
 - A) The floor below
 - **B)** The fire floor
 - C) The stairs to the floor above
- 5) The ______ firefighter initially feeds line to the nozzle FF from the base of the stairway, and then proceeds up the stairway pulling line up the well-hole.
 - A) Door
 - B) Control
 - C) Backup
 - D) Officer
- 6) The _____ FF will remain at the base of the stairway until notified by the officer that sufficient hose has been stretched. Any remaining hose on the first floor should be flaked out and checked for kinks, once the line is charged.
 - A) Backup
 - B) Door
 - c) Control
 - D) ECC



- 7) When a second hoseline is needed to be stretched up a well-hole to the fire floor, which of the following two options would be a correct procedure?
 - A) Utilize a utility rope if the well-hole is large enough to accommodate its use.
 - B) Nozzle firefighter should carry the entire 1st length of hose up the well-hole to the fire floor.
 - **C)** The nozzle firefighter should carry only the nozzle and change hands at each newel post (turn) as the line is stretched up the well.
 - D) Officer will take only the nozzle while the nozzle firefighter feeds the hose up the well.
- 8) What must be done when sufficient line has been pulled up the well-hole?
 - A) Notify the ECC to start water.
 - **B)** Secure the line with a hose strap.
 - **C)** Notify the ECC that sufficient line has been stretched.

9) In the following diagram, if the engine is positioned directly in front of fire building on a hydrant, the correct lengths of hose in the stretch to a fire on the 5th floor of a multiple dwelling would be?



- A) 3 lengths of 2 $\frac{1}{2}$ " hose
- B) 5 lengths of 2 1/2" hose
- C) 3 lengths of $1\frac{3}{4}$ hose
- **D)** 5 lengths of $1\frac{3}{4}$ hose

Chapter 8: Building Construction 1

- 1) The extension of fire in or on the exterior of a building from fire originating in the same building is called
 - A) Air shaft
 - B) Auto exposure
 - c) Variation
 - D) Channeling
- 2) A story partly underground but having at least one-half its height measured from finished floor to finished ceiling above the curb level is called a _____.
 - A) Sub-cellar
 - **B)** Cellar
 - **C)** Sub-basement
 - D) Basement

- 3) A story having more than one-half its height from finished floor to finished ceiling below the curb level is called a_____.
 - A) Sub-cellar
 - B) Cellar
 - C) Sub-basement
 - **D)** Basement
- 4) A ______ is a horizontal member used to carry loads perpendicular to its length.
 - A) Beam
 - B) Joist
 - c) Stud
 - D) "H" column
- 5) A ______ is a bevel cut at the end of roof beams in brick walls which leave the beams free to fall if burned through without causing the walls to fall.
 - A) Bevel cut beam
 - B) Fire cut beam
 - **C)** Concave cut beam
 - **D)** Collapse preventer cut beam
- 6) The picture at the bottom depicts what type of support on a bearing wall?



- A) Within a brick cavity
- B) Fire cut
- C) Corbel shelf
- D) Bevel cut

7) The picture at the bottom depicts what type of support on a bearing wall?



- A) Within a brick cavity
- B) Fire cut
- **C)** Corbel shelf
- D) Bevel cut
- 8) A building housing 3 or more families in which residency is permanent in nature is called a
 - A) Class "A" Multiple dwelling
 - **B)** Class "B" Multiple Dwelling
 - c) Class "C" Multiple Dwelling
 - **D)** Class "D" Multiple Dwelling
- 9) A multiple dwelling which is occupied transiently is called a ______.
 - A) Class "A" Multiple dwelling
 - **B)** Class "B" Multiple Dwelling
 - c) Class "C" Multiple Dwelling
 - **D)** Class "D" Multiple Dwelling
- **10)** A building in which the walls, floors, structural members and stairway enclosures are made of incombustible materials with fire resistive ratings as required by the Building Code is called a
 - A) Brownstone building
 - B) Limestone building
 - **C)** Fireproof building
 - **D)** Concrete building
- **11)** A fire partition protects life by furnishing an area of exit, or refuge, and has a fire resistive rating of at least how many hours under the 1938 Building Code?
 - **A)** 2
 - **B)** 3
 - **C)** 4
 - **D)** 5

- **12)** A fire wall resists the passage of fire from one structure to another or from one area of a structure to another, and has a fire resistive rating of at least how many hours under the 1968 Building Code?
 - **A)** 2
 - **B)** 3
 - **C)** 4
 - **D)** 5
- **13)** Exposures is a system of designating the areas or buildings which are adjacent to the fire building. When facing the main entrance to the fire building, exposure #_____ is on the right
 - **A)** 1
 - **B)** 2
 - **C)** 3
 - **D)** 4
- 14) ______ stairs are located at points remote from each other, but a person can go from one stairway to another via public hall on all floors of the building.
 - A) Isolated
 - B) Wing
 - C) Transverse

Chapter 8: Building Construction 2

- 1) A ______ is a horizontal structural member used to carry loads perpendicular to its length but larger in size to beam.
 - A) Steel "I" beam
 - **B)** Girder
 - C) Column
 - D) Joist
- 2) A ______ is a closely spaced beam supporting a floor or ceiling.
 - A) Steel "I" beam
 - B) Girder
 - C) Column
 - D) Joist
- 3) A ______ is a space between buildings or rooms within a building provided for the purpose of admitting air and light to rooms.
 - A) Sleeper
 - B) Air shaft
 - C) Void
 - D) Channel rail

Match the 1938 building code class with the correct description. (Questions 4-9)

 4) Class 1: 5) Class 2: 6) Class 3: 7) Class 4: 8) Class 5: 9) Class 6: 	 A) non-fireproof structure B) heavy timber construction C) metal structure D) fireproof E) fire protected F) wood frame structure
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10) ______ stairs usually have an individual entrance. The floor landings are limited with no connection to any other stairwell.

- A) Return
- B) Scissor
- C) Transverse
- **D)** Wing
- E) Isolated

11) ______ stairs can be one or two located in each wing. There is no connection to any other wing in the building.

- A) Return
- B) Scissor
- C) Transverse
- D) Wing
- E) Isolated

12) ______ stairs are two stairs constructed side by side in the core of a building in which their doors alternate the point of exit to opposite sides of the core.

- A) Return
- B) Scissor
- c) Transverse
- **D)** Wing
- E) Isolated

Cycle 2 Answer Key

Chapter 11: Intro to Fittings

- **1.** B, C, D (CH 11 sec 8.2) pg. 27
- **2.** A (CH 11 sec 8.1, 8.5 and 8.9) pg. 27-29
- **3.** B (CH 11 sec 10.3) pg. 32
- **4.** C (CH11 sec 11.3) pg. 33

Chapter 16: Basic Ladder Ops

- **1.** A (CH16) pg. 1
- 2. C (CH16) pg. 1
- **3.** B(CH16) pg. 1
- 4. A (CH16) pg. 2
- **5.** C (CH16) pg. 4
- 6. B (CH16) pg. 1
- 7. All (CH16) pg. 1
- 8. C (CH16) pg. 1
- 9. A (CH16) pg. 1
- **10.** E (CH16) pg. 1
- 11. A (CH16) pg. 1
- **12.** D (CH16) pg. 2
- **13.** D (CH16) pg. 2
- 14. A (CH16) pg. 2
- **15.** B (CH16) pg. 2
- 16. A&D (CH16) pg. 3
- **17.** D (CH16) pg. 3
- **18.** D (CH16) pg. 4
- **19.** C (CH16) pg. 7
- **20.** D (CH16) pg. 9-10
- **21.** A (CH16) pg. 122
- **22.** D (CH16) pg. 122-123

Chapter 7: Handie Talkie Care & Use

- **1.** A (Ch7, sec 2.1) pg. 1
- 2. C (Ch7, sec 2.2, B) pg. 1
- **3.** A (Ch7, sec 3) pg. 2
- 4. B (Ch7, sec 3.2) pg. 2
- 5. A (Ch7, sec 3.2) pg. 2
- 6. B,C,D,E (CH7, sec 4.1) pg. 4-8
- **7.** All (CH7, sec 4.2) pg. 9-12
- 8. B, A, C, E, D, F (CH7 sec 7) pg. 14-15
- **9.** B (CH7, sec 7.2) pg. 14
- **10.** C (CH7, picture) pg. 16
- **11.** A (Ch7, sec 2) pg. 35
- 12. D (Ch 7, sec 2.1) pg. 35
- **13.** A (CH7, sec 5) pg. 35

Chapter 5: Basic Knots II

- **1.** B- Ch 5, page 6
- **2.** C- Ch 5, page 6
- **3.** D(CH5) pg. 2-12
- **4.** E
- 5. C
- 6. A
- **7.** B
- 8. F

Chapter 6: Intro to Scott 4.5 Mask II

- **1.** A (Ch6, sec 4.1.1.B) pg. 24
- 2. B (Ch6, sec 4.1.1.A) pg. 24
- 3. E (CH6 sec 4.2.8.E) pg. 28
- 4. A (CH6 sec 4.2.8.F) pg. 28
- **5.** C (CH6 sec 4.2.11.A) pg. 30

Chapter 12: Well-Hole Stretch

- **1.** A (CH12 sec 2.1) pg. 148
- 2. B (CH12 sec 2.2) pg. 148
- 3. False (CH12 sec 2.3.A) pg. 148
- **4.** B (CH12 sec 2.3.B) pg. 148
- **5.** C (CH12 sec 2.3.E) pg. 148
- 6. C (CH12 sec 2.3.G) pg. 148
- 7. A & C (CH12 sec 2.4) pg. 149
- **8.** B (CH12 sec 2.3.D) pg. 148
- **9.** C (CH12 Fig 2-1B) pg. 149

Chapter 8: Building Construction 1

- **1.** B (CH8) pg. 1
- **2.** D (CH8) pg. 1
- **3.** B (CH8) pg. 1
- **4.** A (CH8) pg. 1
- 5. B (CH8) pg. 1
- 6. B (CH8) pg. 2
- **7.** C (CH8) pg. 2
- **8.** A (CH8) pg. 4
- **9.** B (CH8) pg. 4
- **10.** C (CH8) pg. 4
- **11.** B (CH8) pg. 4
- **12.** C (CH8) pg. 5
- **13.** D (CH8) pg. 13
- **14.** C (CH8) pg. 37

Chapter 8: Building construction 2

- **1.** B (CH8) pg. 3
- **2.** D (CH8) pg. 1
- **3.** B (CH8) pg. 1
- **4.** D (CH8) pg. 4
- **5.** E (CH8) pg. 4
- **6.** A (CH8) pg. 4
- **7.** F (CH8) pg. 4
- **8.** C (CH8) pg. 4
- **9.** B (CH8) pg. 4
- **10.** E (CH8) pg. 37
- **11.** D (CH8) pg. 37
- **12.** B (CH8) pg. 36