Test Bank for Anatomy and Physiology for Speech Language and Hearing 5th Seikel

SHORT RESPONSE

1 : What are the three major structures of respiration?

Correct Answer : The three major structures of respiration are: 1. Bony thorax, which contains the vertebrae, vertebral column, ribs, pectoral girdle, sternum, and pelvic girdle. 2. Visceral thorax, which contains the respiratory passageway, lungs, and the mediastinum. 3. Muscles of respiration, which contain the diaphragm, accessory muscles of inspiration, accessory muscles of expiration, and muscles of postural control.

2 : What are the three classes of ribs?

Correct Answer : 1. True (vertebrosternal) ribs, which include the upper ribs (1-7), all of which are directly attached to the sternum. 2. False (vertebrochondral) ribs, which include ribs 8, 9, and 10, and are attached to the sternum through cartilage. 3. Floating (vertebral) ribs (ribs 11 and 12), which articulate only with the vertebral column.

3 : What are the three morphological changes that occur in people with emphysema?

Correct Answer : 1. The first morphological change affects the alveoli of the lungs. The walls of the alveoli break down, and clusters of alveoli become a single sac. 2. The second morphological change arises as a result of the first change. The person experiences an ongoing shortage of oxygen, must breathe deeper and deeper to accommodate, and thus develops a "barrel chest." 3. The third morphological change results in respiratory failure, which leaves the person susceptible to respiratory disorders such as pneumonia.

4 : What it "dry" pleurisy?

Correct Answer : Pleurisy is a disease characterized by inflammation of the pleural linings of the thoracic cavity. This inflammation can result in a condition called "dry pleurisy," which causes the client severe pain upon breathing. The cause of the pain is the loss of the lubricating quality of the intrapleural fluid. Adhesions may form that cause portions of the parietal pleurae to adhere to the visceral pleurae. Pleurisy may be unilateral or bilateral, and may cause excessive fluid (which is sometimes purulent) in the pleural space.

MULTIPLE CHOICE

5 : Which of the following is defined as the exchange of oxygen between an organism and its environment?
A :

Elimination

B :

Expiration

C :

Respiration

D :

Inspiration

Correct Answer : C

6 : Gas exchange occurs within the minute air sacs of the lungs called
A :

alveoli.

B :

trachea.

C :

bronchi.

D :

terminal bronchioles.

Correct Answer : A

7 : Pressure is defined as
A :

F = P/A.

B :

F = A/P.

C :

F = P x A/P.

D :

none of the above.

Correct Answer : A

8 : Boyle’s law states that
A :

given a constant temperature and pressure, increasing the number of molecules in a container will increase the pressure.

B :

given a volume of gas, increasing the pressure on the gas will increase the number of molecules in the gas.

C :

given a gas of constant temperature, increasing the volume of the chamber in which the gas is contained will decrease the pressure.

D :

none of the above.

Correct Answer : C

9 : When the volume of a closed container such as a hypodermic needle is increased,
A :

pressure increases.

B :

pressure decreases.

C :

Boyle’s law is violated.

D :

air or liquid will be sucked into the hypodermic needle.

Correct Answer : B

10 : The lungs are housed within the
A :

abdominal region.

B :

sternal cavity.

C :

diaphragm.

D :

thorax.

Correct Answer : D

11 : The lateral aspect of the thorax is made up of the
A :

rib cage.

B :

diaphragm.

C :

sternum and clavicle.

D :

scapula.

Correct Answer : A

12 : The functional unit of the vertebral column is the
A :

spinous process.

B :

vertebrae.

C :

lateral process.

D :

vertebral canal.

Correct Answer : B

13 : How many cervical vertebrae are there in the human body?
A :

12

B :

6

C :

4

D :

7

Correct Answer : D

14 : How many thoracic vertebrae are there in the human body?
A :

17

B :

7

C :

12

D :

8

Correct Answer : C

15 : How many lumbar vertebrae are there in the human body?
A :

8

B :

4

C :

6 or 7

D :

None of the above

Correct Answer : D

16 : How many sacral vertebrae are there in the human body?
A :

5

B :

7

C :

12

D :

None of the above

Correct Answer : A

17 : Which process forms the palpable aspect of the vertebral column?
A :

Lateral

B :

Costal

C :

Spinous

D :

Anterior

Correct Answer : C

18 : Which processes form the primary attachment of the rib to the vertebral column?
A :

Transverse

B :

Costal

C :

Vertebral

D :

Posterior

Correct Answer : A

19 : Which is the channel through which the spinal cord passes?
A :

Vagal formation

B :

Foramen ovale

C :

Alveolar portion

D :

Vertebral foramen

Correct Answer : D

20 : Spinal nerves exit the spinal cord via the
A :

vagal trigone.

B :

foramen magnum.

C :

intervertebral foramen.

D :

pterygoid fossa.

Correct Answer : C

21 : The odontoid process is present only on the
A :

second cervical vertebra.

B :

second thoracic vertebra.

C :

second lumbar vertebra.

D :

second sacral vertebra.

Correct Answer : A

22 : C1 is termed the
A :

axis.

B :

atlas.

C :

apex.

D :

none of the above.

Correct Answer : B

23 : The pelvic girdle is comprised of the ilium, sacrum, pubic bone, and
A :

ischium.

B :

sacroiliac.

C :

icthic bone.

D :

sarcoid unit.

Correct Answer : A

24 : Which of the following forms the superior attachment for the inguinal ligament?
A :

Transverse process of S5

B :

Sacral ridge

C :

Pubic symphysis

D :

Iliac crest

Correct Answer : D

25 : Which is the inferior-most component of the vertebral column?
A :

Coccyx

B :

Sacrum

C :

Pubic symphysis

D :

Sacral ridge

Correct Answer : A

26 : The pectoral girdle consists of the scapula and
A :

sternum.

B :

cervical portion of the vertebral column.

C :

clavicle.

D :

inguinal ligament.

Correct Answer : C

27 : There is/are how many floating ribs?
A :

1

B :

2

C :

3

D :

4

Correct Answer : B

28 : There are how many true ribs?
A :

12

B :

7

C :

5

D :

3

Correct Answer : B

29 : At rest, the rib cage slopes
A :

downward.

B :

upward.

C :

laterally.

D :

transversely.

Correct Answer : A

MATCHING

30 : Match each term to the correct descriptor. Terms may be used more than once or not at all.

A : The superior-most structure of the sternum	A : corpus sterni
B : The head of the first rib attaches to this structure	B : manubrium sterni
C : Forms the anterior-most attachment of the diaphragm	C : xiphoid process
D : The inferior-most component of the vertebral column	D : clavicle
E : Vertebrae that have an opening through which the vertebral artery passes	E : scapula
F : Forms the superior aspect of the pectoral girdle	F : thoracic vertebrae
	G : cervical vertebrae
	H : coccyx
	I : sacrum

Correct Answer :
A : B

B : B

C : C

D : H

E : G

F : D

31 : Match each muscle to the correct descriptor. Terms may be used more than once or not at all.

A : The primary muscle of inspiration	A : pectoralis major
B : Arm muscle that attaches to the sternum and elevates the sternum during inspiration	B : intraosseous portion, internal intercostals
C : Lies deep to the pectoralis major, originates on the coracoid process of the scapula, and elevates the rib cage	C : pectoralis minor
D : Responsible for turning the head, as well as elevating the thorax	D : sternocleidomastoid
E : Elevate each of the ribs during inspiration	E : scalenus anterior, medius, posterior
	F : diaphragm
	G : external intercostals

Correct Answer :
A : F

B : A

C : C

D : D

E : G

32 : Match each muscle to the correct descriptor. Terms may be used more than once or not at all.

A : Segmented muscle that runs from the xiphoid process to the pubic symphysis	A : rectus abdominis
B : Muscle of expiration that originates on the inguinal ligament and courses fanlike to insert into the linea semilunaris and lower margin of the rib cage	B : transversus thoracis
C : Elevates the rib cage	C : transversus abdominis
D : Pulls the ribs closer together as it depresses the rib cage	D : external intercostals
E : Courses from the thoracolumbar fascia to the linea semilunaris	E : internal intercostals
	F : intraosseous portion, internal intercostals
	G : intraosseous portion, external intercostals
	H : internal oblique abdominis

Correct Answer :
A : A

B : H

C : D

D : E

E : B

33 : Match each muscle to the correct descriptor. Terms may be used more than once or not at all.

A : Elevates the ribs	A : rectus abdominis
B : Deep to the rib cage; depresses the rib cage during expiration	B : transversus abdominis
C : Unilateral contraction of this muscle helps rotate the trunk in the direction of contraction	C : transversus thoracis
D : Originates on the inguinal ligament and linea semilunaris and courses fanlike to insert into the lower ribs	D : internal oblique abdominis
E : Contraction of this muscle brings the sternum closer to the pubic symphysis	E : internal intercostals

F : transversus thoracis
G : external intercostals
H : external oblique abdominis

Correct Answer :
A : G

B : F

C : D

D : H

E : A

34 : Match each term to the correct descriptor. Terms may be used more than once or not at all.

A : Component of the posterior attachment of the abdominal aponeurosis	A : inguinal ligament
B : Forms the insertion for the rectus abdominis	B : xiphoid process
C : Forms the superior point of attachment for the rectus abdominis	C : linea semilunaris
D : Divides the left and right rectus abdominis muscles	D : linea alba
E : Courses from the iliac crest to the pubic symphysis	E : thoracolumbar fascia

Correct Answer :
A : E

B : C

C : B

D : D

E : A

35 : Match each term to the correct descriptor. Terms may be used more than once or not at all.

A : Muscle of the thorax that elevates the first four ribs	A : transversus thoracis
B : Muscle of the thorax that depresses the last four ribs	B : serratus posterior inferior
C : Arises from the transverse process of a thoracic vertebra and courses down to insert into the rib below	C : serratus posterior superior
D : Arises from a thoracic vertebra and courses down. It skips the rib immediately below its vertebral origin and inserts into the rib below it	D : levator costarum longis
	E : levator costarum brevis
	F : rhomboideus major and minor
	G : trapezius

H : latissimus dorsi

Correct Answer :
A : C

B : B

C : E

D : D

36 : Match the indicated muscle or component to the correct function. Terms may be used more than once or not at all.

A : Sternocleidomastoid
B : External intercostal
C : Internal intercostal, intraosseous component
D : Internal intercostal, interchondral component
E : Trapezius
F : Quadratus lumborum
G : Transversus thoracis
H : Pectoralis major
I : Scalenus anterior
J : Rhomboideus major and minor

A : inspiration
B : expiration
C : neck stability
D : trunk stability

Correct Answer :
A : A

B : A

C : B

D : A

E : C

F : D

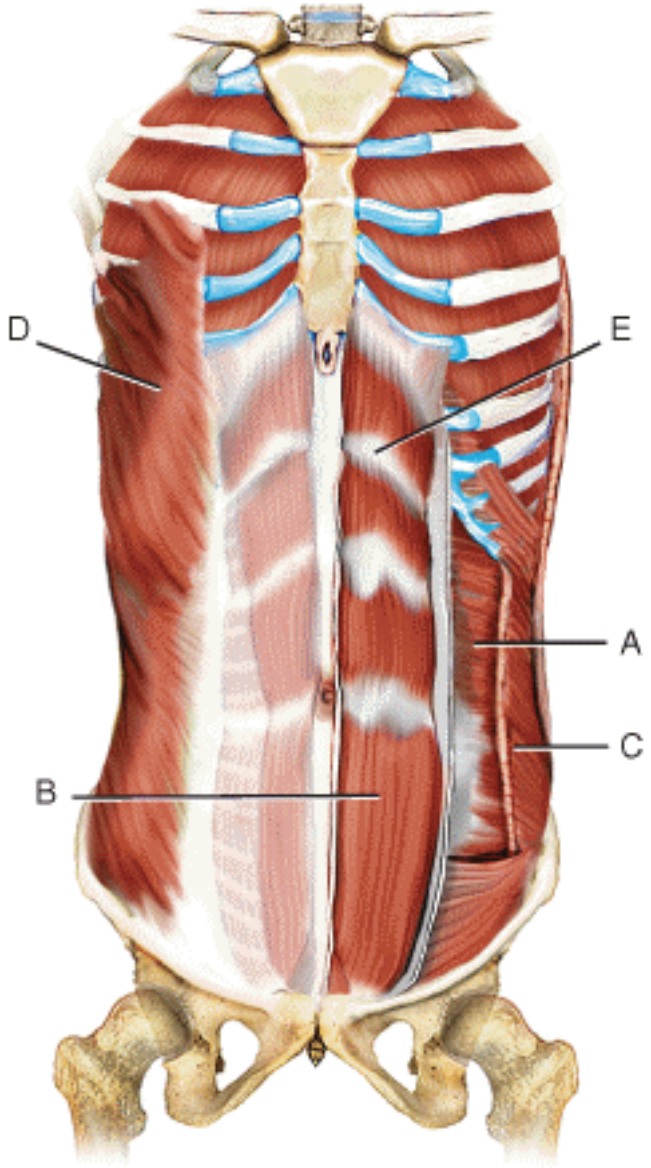
G : B

H : A

I : C

J : D

37 :



Identify the muscles indicated on the following figure using the letters provided. Letters may be used more than once or not at all.

A : Rectus abdominis	A : 1
B : Transversus abdominis	B : 2
C : External oblique abdominis	C : 3
D : Internal oblique abdominis	D : 4
E : Muscle that brings the pubic symphysis and the sternum closer together when it contracts.	E : 5

Correct Answer :
A : B

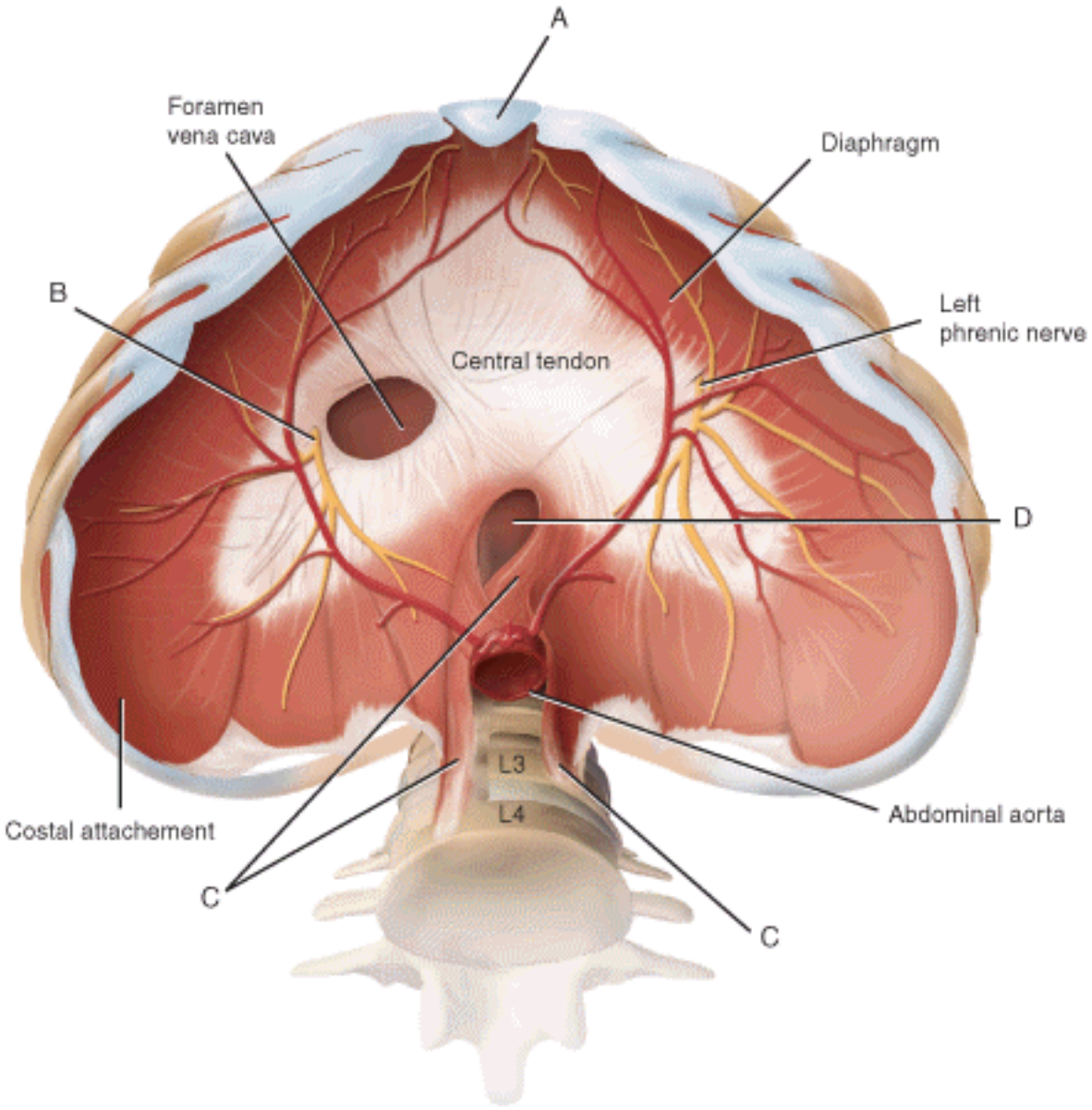
B : A

C : D

D : C

E : B

38 :



INFERIOR VIEW

Identify the components indicated on the following figure using the letters provided. Letters may be used more than once or not at all.

A : Posterior-most attachment of the diaphragm	A : 1
B : Sternal attachment of the diaphragm	B : 2
C : The esophageal hiatus	C : 3
D : Point of attachment arising from the L4 and L5 vertebrae	D : 4

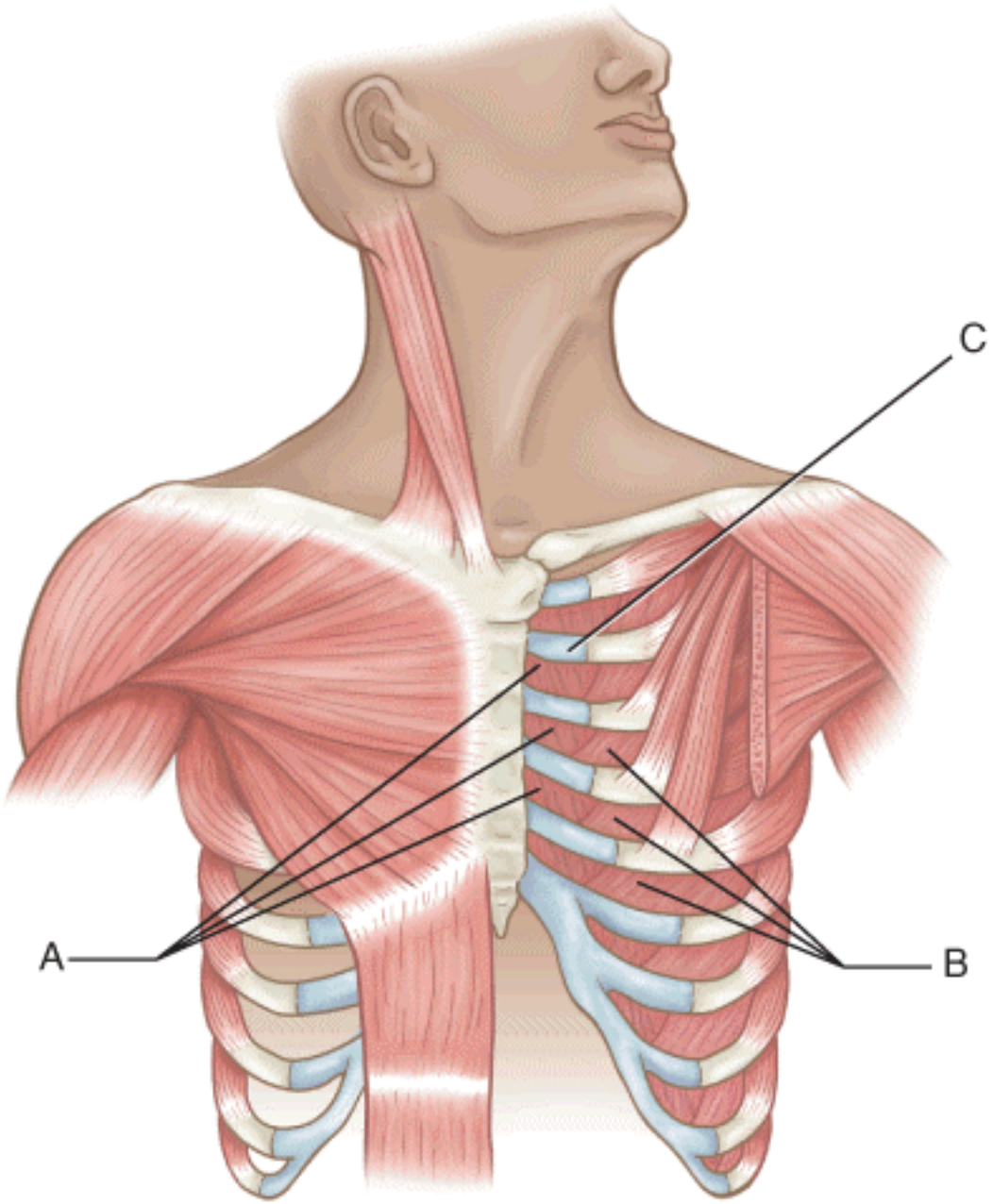
Correct Answer :
A : C

B : A

C : D

D : C

39 :



Identify the components indicated on the following figure using the letters provided. Letters may be used more than once or not at all.

A : A muscle of inspiration	A : 1
B : Internal intercostal muscle	B : 2
C : Chondral portion of the rib cage	C : 3
D : External intercostal muscle	D : 4

Correct Answer :
A : B

B : A

C : C

D : B

FILL IN THE BLANK

40 : A relative increase in air pressure over atmospheric pressure is known as _____ pressure.

Correct Answer : positive

41 : A relative decrease in air pressure under atmospheric pressure is known as _____ pressure.

Correct Answer : negative

42 : The _____ of the sternum is the point of attachment for the first rib and clavicle.

Correct Answer : manubrium

43 : The _____ of the sternum is the largest component, forming the point of attachment for all but one of the true ribs.

Correct Answer : Corpus

44 : The _____ process is the inferior-most aspect of the sternum.

Correct Answer : xiphoid

45 : The _____ is a flexible tube beneath the larynx, forming the first passageway to the lungs.

Correct Answer : trachea

46 : The _____ is the point of bifurcation of the trachea.

Correct Answer : carina tracheae

47 : The esophagus is (anterior/posterior) _____ to the trachea.

Correct Answer : posterior

48 : The (left/right) _____ lung has two lobes.

Correct Answer : left

49 : Secondary bronchi serve the _____ of the lungs.

Correct Answer : lobes

50 : Tertiary bronchi serve the _____ of the lungs.

Correct Answer : segments

51 : Alveoli are located at the ends of the _____ bronchioles.

Correct Answer : terminal

52 : During inspiration, the diaphragm is contracted, which causes it to (elevate/depress) _____.

Correct Answer : depress

53 : During inspiration, the inspiratory muscles of the rib cage contract, causing the rib cage to (elevate/depress) _____.

Correct Answer : elevate

54 : When the rib cage becomes smaller during respiration, air will flow (into/out of) _____ the lungs.

Correct Answer : out of

55 : The term used for a punctured lung is _____.

Correct Answer : pneumothorax

56 : The _____ lining completely envelops the lungs and the interior thoracic wall.

Correct Answer : pleural

57 : The _____ pleurae cover the surface of the lungs.

Correct Answer : parietal

58 : The _____ pleurae cover the rib cage.

Correct Answer : costal

59 : When the serous fluid between the pleural linings is lost or reduced, a person is said to have _____.

Correct Answer : pleurisy

60 : The space holding the heart is termed the _____.

Correct Answer : mediastinum

61 : The _____ nerve innervates the diaphragm.

Correct Answer : phrenic

62 : The _____ attachment of the diaphragm is the anterior-most point of origin of this muscle.

Correct Answer : sternal

63 : The _____ tendon is the point of insertion for all muscle fibers of the diaphragm.

Correct Answer : central

64 : The diaphragm muscle fibers arising from the _____ point of attachment encircle the esophagus as they transit to the central tendon.

Correct Answer : vertebral

65 : When the diaphragm contracts, the central tendon (elevates/depresses) _____.

Correct Answer : depresses

66 : The phrenic nerve arises from the _____ plexus.

Correct Answer : cervical

67 : The _____ intercostal muscles are muscles of inspiration.

Correct Answer : external

68 : The _____ portion of the internal intercostal muscles is involved in inspiration.

Correct Answer : chondral

69 : The _____ intercostal muscles are primarily involved in expiration.

Correct Answer : internal

70 : The external intercostal muscles (elevate/depress) _____ the rib cage.

Correct Answer : elevate

71 : The serratus posterior superior muscles (elevate/depress) _____ the rib cage.

Correct Answer : elevate

72 : The _____ muscle elevates the sternum and clavicle, and also rotates the head.

Correct Answer : sternocleidomastoid

73 : The _____ muscle is actually a muscle of the arm, and elevates the rib cage by means of sternal and clavicular muscular components.

Correct Answer : pectoralis major

74 : The _____ muscle is a massive muscle of inspiration making up the superficial upper back and neck; it originates along the spinous processes of C2 to T12 by means of fascial connection.

Correct Answer : trapezius

75 : The _____ muscles are posterior thoracic muscles of inspiration that elevate the rib cage. Each portion originates on a transverse process of a vertebra (from C7 through T11), for a total of 12 muscles. Fibers course obliquely down and out to insert into the tubercle of the rib below.

Correct Answer : levator costarum brevis

76 : The _____ muscle originates on the spinous processes of C7 and T1 through T3. Fibers from these muscles course down and laterally to insert just beyond the angles of ribs 2 through 5. This group of muscles elevates the rib cage during inspiration.

Correct Answer : serratus posterior superior

77 : The _____ muscle is found on the inner surface of the rib cage, originating on the margin of the sternum, with fibers coursing to the inner chondral surface of ribs 2 through 6. Contraction of this muscle resists elevation of the rib cage and decreases the volume of the thoracic cavity.

Correct Answer : transversus thoracis

78 : The _____ muscles originate on the spinous processes of the T11, T12, and L1 through L3 vertebrae and course up and laterally to insert into the lower margin of the lower five ribs. Contraction of these muscles pulls the rib cage down for expiration.

Correct Answer : serratus posterior inferior

79 : The _____ hiatus is the opening of the diaphragm that permits connection of the pharyngeal region with the stomach.

Correct Answer : esophageal