Muscular/Respiratory Anatomy Exam

1. Name 3 muscles with action of **elbow flexion**

_____

2. Name 2 muscles with action of **internal (medial)rotation of the humerus**

_____

3. Name 3 muscles with action of **knee extension**

_____

4. Write the 4 major characteristics of muscles next to the description:

1. _____: Ability to receive and respond to stimuli
2. _____: Ability to shorten and thicken
3. _____: Ability to stretch
4. _____: Ability to return to its original shape after contraction or extension

5. Match these muscular conditions with the level at which the impairment occurs:

A: Muscular Dystrophy; B: Myasthenia Gravis; C: Poliomyelitis

1. At the nerves controlling muscular contraction _____
2. Within the muscle fiber _____
3. At the neuromuscular junction _____

6. Muscle cell identification – Identify the 3 types of muscle cells shown on the smart board projection:

1. Slide A- _____
2. Slide B-_____
3. Slide C-_____

7. Name 3 tissues other than muscle fiber found within a muscle

_____

8. Match the correct letter on the muscles of the model with the names below (5 minutes at this station)

Orbicularis oculi _____ Sternocleidomastoid _____ Trapezius _____

Latisimus dorsi _____ Deltoid _____ Gluteus Maximus _____

Zygomaticus _____ Masseter _____ Serratus anterior _____

9. Describe at least 4 major functions of muscle

_____

_____

_____

_____

10. An athlete comes to you with mild pain and swelling in his quadriceps after doing a vigorous workout. Your most likely diagnosis would be:

a. Sprain b. avulsion c. strain

11. You prescribe an anti-inflammatory medication and RICE for the above athlete. What does the acronym RICE stand for?

R: _____I: _____ C: _____ E: _____

12. The less movable end of a muscle, usually located proximally is called the: _____

13. The more moveable end of a muscle, usually located distally is called the:_____

14. Match the term with the correct description:

A: Myofibril ; B: Sarcolemma; C: Endomysium ; D:Perimysium; E: Epimysium; F:Fasiculus

_____ The connective tissue that encases an entire muscle

_____ The connective tissue that encases a bundle of muscle fibers

_____ A thin extension of connective tissue that envelops the muscle fiber

_____ The cell membrane of an individual muscle cell/fiber

_____ A bundle of muscle fibers

_____ Threadlike structures found in abundance within the muscle cell/fiber

15. Name the basic contractile unit within a myofibril. _____

16. Hypertrophy of muscle due to exercise increases the size of a muscle by:

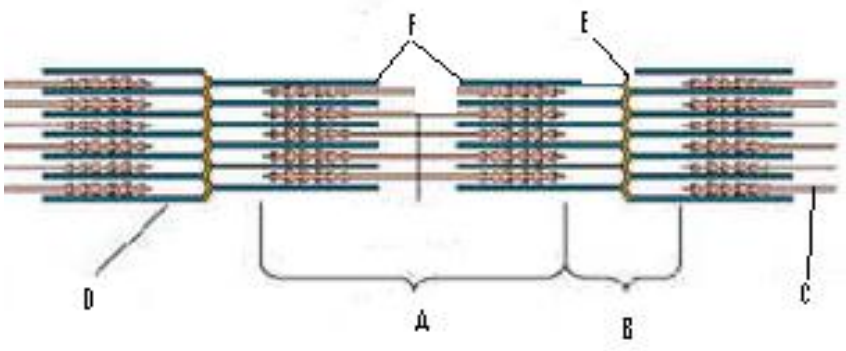
A: increasing motor units

B: increasing muscle cells

C: increasing gap junctions

D: Increasing the number of myofibrils

17. Identify the following components found in the diagram**:**



A band_____ Thick filament_____ Z disc _____

I band _____ Thin filament_____ H zone_____

18. Match the following characteristics with the correct type of muscle:

A: smooth; B: cardiac; C: skeletal

Spindle shaped cells which connect to each other by gap junctions: _____

Cells joined in series end to end , often branch to connect to other cells: _____

Single cell with multiple peripheral nuclei: _____

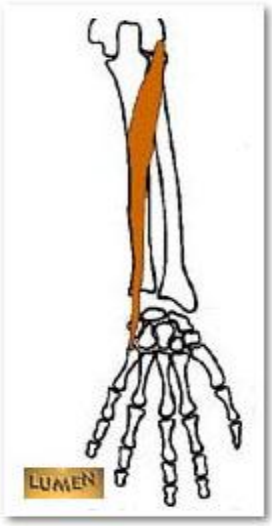
Contains a junction between cells called an intercalated disk: _____

Have a striated appearance due to myofilaments organized into very regularly ordered lengthwise sarcomeres: _____

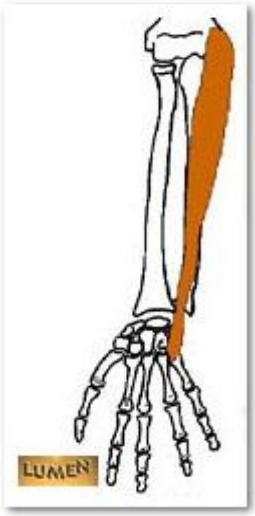
19. Match the muscles with the diagram:

Extensor carpi ulnaris _____ Palmaris longus _____ Vastus lateralis_____

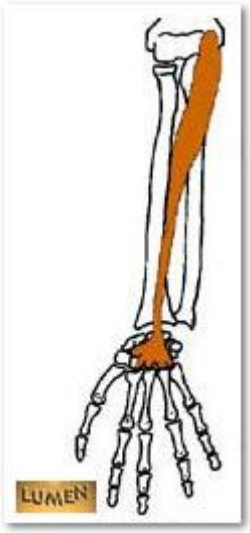
Flexor carpi ulnaris _____ Biceps Femoris _____ Sartorius _____



A:(Posterior view right arm)

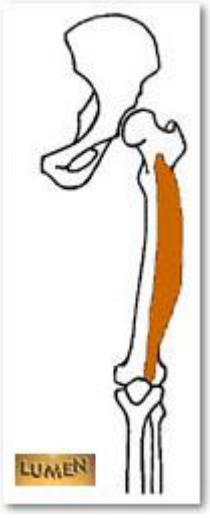


B: (Anterior view right arm)



C: (Anterior view right arm)

D: (posterior view right leg)



E: (anterior view left leg)

F: (anterior view left leg)

20. Match muscle names with one of the primary actions below

Orbicularis Oris	Ankle plantarflexion
Deltoid	Lip closure
Soleus	Jaw closure
Masseter	Shoulder/scapular elevation
Trapezius	Humeral abduction
Serratus Anterior	Elbow extension
Gluteus Medius	Trunk rotation to opposite side
Triceps Brachii	Protraction of the scapula
Tibialis Anterior	Hip abduction
External Oblique	Ankle dorsiflexion

21. Match the following structures with the number on the model:

Hard palate _____

Soft palate _____

Trachea _____

Epiglottis _____

Larynx _____

Primary Bronchus _____

Lung middle lobe _____

Lung inferior lobe _____

Lung Superior lobe _____

21. Name at least 3 of the 5 primary functions of the respiratory system:

1._____

2._____

3._____

4._____

5_____

22. Why does the right lung have 3 lobes and the left lung has only 2 lobes?:

_____

_____

23. The following steps describe the pathway of air during inhalation. Place them in order from start to finish by numbering each from 1-8.

Secondary Bronchi _____

Pharynx _____

Alveoli _____

Nasal/oral cavity _____

Bronchioles _____

Tertiary Bronchi _____

Trachea _____

Primary Bronchi _____

24. What gas is brought into the lungs during inhalation? _____

25. What gas is removed from the blood at exhalation? _____

26. Name three muscles involved with respiration:

_____

_____

_____

27. Are these muscles active during inspiration or expiration? _____

28. Match the following terms related to lung capacity with the correct description:

1. _____Tidal Volume

2. _____ Inspiratory Reserve Volume

3. _____ Expiratory Reserve Volume

4. _____ Residual Volume

5. _____ Vital Capacity

6. _____ Inspiratory Capacity

7._____ Functional Residual Capacity

8. _____ Total Lung Capacity

a.: The maximum amount of air that can be expired after taking the deepest breath possible

b.: The total volume of air that the lungs can hold

c.: The amount of air remaining in the lungs after a forced exhalation

d.: The amount of air the is inhaled or exhaled with each breath under resting conditions

e.: The amount of air that can be exhaled during forced breathing in addition to the tidal volume.

f.: The amount of air that can be inhaled during forced breathing in addition to resting tidal volume.

g.: The maximum volume of air that can be inhaled following exhalation of resting tidal volume.

h.: The volume of air remaining in the lungs following exhalation of resting volume.

29. Match the following respiratory conditions with the correct definition:

Tuberculosis _____

Chronic Bronchitis _____

Pneumonia _____

Laryngitis _____

Asthma _____

Emphysema _____

a.: lower respiratory infection that causes fluid build up in the lungs

b.: alveolar walls break down and the surface area of the lungs is reduced

c.: intense bronchoconstriction related to underlying inflammatory process

d.: pulmonary infection with a mycobacterium tuberculosis , reduces lung compliance

e.: inflammation of the vocal folds

f.: cilia reduction and immobilization, increase mucus production causing airway obstruction and infection.

Effects of exercise on the Muscular and Respiratory systems:

30. Briefly explain why your breathing rate increased when you are performing exercise:

_____

_____

_____

_____

31. Give 3 examples of exercise's effect on the muscular system:

_____

_____

_____