**Anatomy Worksheet 6**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **Skeletal Muscular Tissue**

**Exercise 1.** Skeletal muscle tissue is controlled by the somatic nervous system. Axons of somatic motor neurons communicate with individual skeletal muscle fibers to coordinate body movement.

**1)** Label the drawing below.



**2)** Match the terms in with the description or definitions below.

**A.** Aponeuroses **F.** Epimysium

**B.** Endomysium **G.** Fascicle

**C.** Fascia **H.** Ligament

**D.** Perimysium **I.** Skeletal Muscle Cell

**E.** Tendon  **J.** Neuromuscular Junction

1. \_\_\_ Layer of connective tissue that separates a muscle into small bundles called fascicles.

2. \_\_\_ Layer of connective tissue that surrounds an individual skeletal muscle cell (muscle fiber).

3. \_\_\_ A bundle of muscle fibers.

4. \_\_\_ A specific layer of connective tissue that surrounds a whole skeletal muscle.

5. \_\_\_ Network of connective tissue that binds and extends throughout the entire muscular system.

6. \_\_\_ Broad tendinous sheet that may serve as the origin or insertion of skeletal muscle.

7. \_\_\_ Dense connective tissue joining bone to bone.

8. \_\_\_ Site of nervous innervation of muscle fiber.

9. \_\_\_ Cord-like collagenous band that attaches a muscle to an element of the skeleton.

10.\_\_\_ Contains many nuclei and is long and cylindrical.

**Exercise 2. Skeletal Muscles of the Face, Head and Neck.** Complete the following statements:

**a)** The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ causes the lower lip to “pout”.

**b)** When contracted one at a time, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can cause the head to rotate laterally.

**c)** When both sternocleidomastoid muscles contract, they act to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**d)** The action of the masseter is to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**e)** The kite-shaped muscle the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can act to hyperextend the head and neck.

**f)** The flat broad anterior muscle the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ helps to depress the mandible.

**g)** The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a muscle that depresses the angles of the mouth into a frown.

**Exercise 3. Classification of Skeletal Muscles**

**1.** In class, several criteria were given regarding the naming of muscles. For each muscle name in **Column A**, choose from the key in **Column B**, all criteria on which the muscle names are based.

**Column A Column B**

1. external oblique \_\_\_\_\_

2. adductor magnus \_\_\_\_\_

3. biceps femoris \_\_\_\_\_

4. transverse abdominis \_\_\_\_\_

5. coracobrachialis \_\_\_\_\_

6. extensor carpi ulnaris \_\_\_\_\_

7. rectus femoris \_\_\_\_\_

8. pronator teres \_\_\_\_\_

9. gluteus maximus \_\_\_\_\_

10. sternocleidomastoid \_\_\_\_\_

**a.** action of the muscle

**b.** shape of the muscle

**c.** location of origin and/or insertion of the muscle

**d.** number of origins or heads

**e.** location of the muscle relative to a bone or body

**f.** direction of fascicles relative to an imaginary line

**g.** relative size of the muscle

**2.** Using the information listed here regarding origin and insertion, name the specific muscle.

**Origin Insertion Muscle**

**1.** temporal fossa and lines coronoid process of mandible \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2.** sternum and clavicle mastoid process \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3.** fascia of chest muscles inferior border of mandible \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4.** zygomatic arch angle of mandible \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Exercise 3. Skeletal Muscles of the Back, Chest, Shoulder and Arm.**

**1.** Complete the following statements:

**a)** The large, powerful muscle of the back that adducts the arm is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**b)** A muscle responsible for rotating the forearm medially \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**c)** A muscle that has three heads and acts to extend the arm is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**d)** The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ occupies the inferior posterior surface of the scapula.

**e)** The muscles that act on the scapula originate on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ skeleton.

**f)** The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ attaches to the superior portion of the vertebral border of the scapula and is responsible for the teenage-like 'whatever' shrugging of the shoulders.

**g)** Of the four (4) rotator cuff muscles: 1) name the only one that inserts on the lesser tubercle of the scapula; and 2) why this insertion?

**1)**

**2)**

**2.** Match the muscles in Column A with the actions in Column B. Use each letter only once.

**Column A Column B**

**A.** erector spinae 1. \_\_\_\_ rotates arm laterally

**B.** coracobrachialis 2. \_\_\_\_ flexes and adducts the arm

**C.** triceps brachii 3. \_\_\_\_ extends vertebral column

**D.** infraspinatus 4. \_\_\_\_ abducts upper arm

**E.** pectoralis major  5. \_\_\_\_ elevates and adducts the scapula

**F.** deltoid 6. \_\_\_\_ flexes forearm

**G.** rhomboideus major 7. \_\_\_\_ adducts arm and rotates brachium medially

**H.** pectoralis minor 8. \_\_\_\_ extends forearm

**I.** brachialis 9. \_\_\_\_ depresses shoulder and draws scapula laterally

**J.** supinator 10. \_\_\_\_ rotates forearm laterally

**Exercise 4. Skeletal Muscles of the Abdomen and Lower Extremities. 1.** Complete the following statements:

**a)** Abdominal muscle with fascicles running inferior and medially (‘hands in pockets’): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**b)** The 'tailors' muscle is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and is also the longest muscle in the body.

**c)** The long strap-like abdominal muscle that flexes the vertebral column is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**d)** The deep and medially located of the hamstring muscles is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**e)** The most superficial of the medial thigh muscle is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**f)** Two muscles insert on the iliotibial tract; 1) is responsible for flexion and medial rotation at the hip and 2) is responsible for extension and lateral rotation at the hip.

**1) 2)**

**g)** The deep 'calf' muscle that is often termed the “marathon runners” muscle is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**h)** Label the muscles indicated in the drawings below.



**2.** Match the muscles in **Column A** with the actions in **Column B**. Use each letter only once.

**Column A Column B**

**A.** sortorius 1. \_\_\_ flexes hip joint and extends knee joint

**B.** gluteus maximus 2. \_\_\_ plantar flexion of the ankle

**C.** tibialis anterior 3. \_\_\_ dorsiflexion and extension of the toes

**D.** adductor magnus 4. \_\_\_ adducts the thigh or flex the leg

**E.** gastrocnemius  5. \_\_\_ dorsiflexes the ankle; inverts the foot

**F.** extensor digitorum longus 6. \_\_\_ powerful extensor of the thigh

**G.** soleus 7. \_\_\_ plantar flexion; flexion of the knee

**H.** rectus femoris 8. \_\_\_ flexes and rotates thigh laterally; flexes leg

**I.** biceps femoris 9. \_\_\_ large muscle for adduction of the thigh

**J.** gracilis 10. \_\_\_ flexes leg; extends and laterally rotates the thigh at hip