Human Skeletal and Muscular System Exam Review - **answers**

What are the 4 functions of the skeletal system?

- ***Protection and support***
- ***Movement***
- ***Blood cell formation (hematopoiesis)***
- ***Storage of inorganic salts***

What are the 3 general functions of the muscular system? What is the primary function?

- ***Movement – PRIMARY***
- ***Heat production***
- ***Posture***

Fill in the missing information about the different type of SYNOVIAL JOINTS

TYPE	EXAMPLE	DESCRIPTION
Ball and socket	Shoulder & Hip	**Most movable; easy to dislocate**
Pivot Joint	Radius/ulna	Moves up & down and side to side.
Hinge	**Elbow or knee**	Moves in only one direction
Gliding	Wrists & Ankles	Slide in all directions
Saddle	**Thumb**	Opposable movements

Describe a fibrous joint? Give an example.

Immovable; sutures in the skull

Describe a cartilaginous joint? Give an example.

Slightly movable; made of fibrocartilage; symphysis pubis, intervertebral discs, costal cartilage

Describe the following joint movements:

Abduction/adduction:

Away/toward midline

Elevation:

raising

Extension/flexion:

Increase angle/decrease angle

Pronation/supination:

Palm up/palm down

Circumduction/rotation:

Circular movement of a limb/turning limb around an axis

Fractures:

What is the difference between a complete and an incomplete fracture?

Complete separates the bone in at least two different pieces

What is the difference between a compound/open and a closed/simple fracture?

Closed/simple does not communicate with other tissues

Describe the following system issues/diseases/disorders (all are in your notes):

Rheumatoid arthritis

Gouty arthritis

Osteoarthritis

Tendonitis

Bursitis

Polio

Spina bifida

Osteoporosis

Duchenne muscular dystrophy

What is the difference in how an endochondral bone develops and the development of an intramembranous bone?

Begins as hyaline cartilage and is replaced my bone; ossification centers; typical in long bones; most common

Intramembranous – develops between sheets of fibrocartilage; common in flat bones

Put the following muscle contraction and relaxation steps in order.

__2___ acetylcholine travels across the synaptic gap

__5___ actin and myosin form linkages

__4___ calcium ions diffuse into the skeletal fiber and bind to troponin

__9___ actin and myosin linkages are broken

__8___ calcium ions diffuse out of the skeletal muscle

__1___ acetylcholine is released from the distal end of the motor neuron

__7___ cholinesterase decomposes acetylcholine

__3___ acetylcholine stimulates the skeletal fiber

__10__ muscle relaxes

__6___ muscle fiber shortens (contracts)

- The scientific name of your jawbone. mandible
- These attach bone to bone. ligaments
- This type of bone protects organs. Flat bones
- This part of the skeleton includes the skull, ribs, and spinal column. axial

- These two minerals give bones their strength and hardness. Calcium and phosphorous
- The protective layer around the bone. periosteum
- This can be found inside the center of bones. Medullary cavity with yellow bone marrow
- These types of bones are primarily used to support weight. Long bones
- The scientific name for the breastbone. sternum
- Your vertebrae are this type of bones. irregular
- This type of tissue will absorb shock where bones meet. cartilage
- Tissue that joins part of the body together. connective
- The scientific name of the thighbone. femur
- This type of joint allows the most movement but is susceptible to injury. Synovial – ball and socket
- A place where two bones meet. joint
- The scientific name for the wrist bones. carpals
- The process during which cartilage hardens into bone. ossification
- A type of fracture that does not go all the way through the bone. Incomplete
- A disease that causes the bones to become weak and bend. ricketts
- The neck is an example of this type of joint. pivot
- This part of the skeleton includes the arms, legs, shoulder and pelvis. appendicular
- A type of fracture where the bone has broken all of the way through. incomplete
- Inflammation and swelling of joints could be due to this condition. arthritis
- The knee and elbow are this type of joint. hinge
- The scientific name of the kneecap. patella
- A type of fracture where there is a complete break of the bone and the skin. Compound/open
- The scientific name of the collarbone. clavicle
- When a bone moves out of position. dislocation
- The scientific name of the shoulder blades. scapula
- These types of bones are used for small movements. Short bones
- These muscles can be found in the lower back. Latisummus dorsi
- How many muscles are there in the human body? 650
- This type of muscle can only be found in the heart. cardiac
- These connect muscles to bones. Tendons

- This muscle is often called the calf muscle. Gastrocnemius
- The two protein filaments found in muscle fibers. Actin and myosin
- These tell muscles when to move. Motor neurons
- This type of muscle helps you move when you want to. Voluntary → skeletal
- This type of muscle works without you thinking about them. Involuntary → cardiac and smooth
- Also known as striated muscle; moves your bones. skeletal
- Type of muscles found in your organs and skin. Smooth
- These muscles can be found in your thigh. Quadriceps
- The three things muscles need to stay alive. Water, oxygen, blood
- The muscles found in the upper chest. Pec. Major
- The category of muscle strain that results in the complete rupture of the muscle. Strain III
- A condition that involves the swelling of the covering around a tendon. tendonitis
- The end of the muscle that does not move. origin
- A condition in which muscles reduce in size from lack of use. atrophy
- An injury where the ligament, tendon or muscle has been pulled or stretched. Sprain/strain
- A condition in which muscles increase in size from being used too much. hypertrophy
- Muscles get short and fat when they do this. contract
- When one muscle contracts, its partner does this. relaxes
- The end of the muscle that can move. insertion
- The muscles found at the back of the thigh. hamstrings

Cartilage is

A) Infection in the bones

B) Swelling & stiffness in a joint

C) Tough flexible cushion between two bones

D) Curvature of the spine

Ligaments

A) Strong cord that connects *bone to bone*

B) Strong cord that connects *muscle to bone*

Tendons

A) Strong cord that connects *bone to bone*

B) Strong cord that connects *muscle to bone*

Proper care of a sprain is

A) Bones kept in place

C) Regular exercise and supplementation

B) Rest, Ice, Compression and Elevation

Which of the following is located superior to the femur:

A) Metacarpals

C) Tibia

B) Fibula

D) Humerus

A bone is supplied with nutrients by

A) Yellow Bone Marrow

C) Calcification

B) Red Bone Marrow

D) Blood Vessels

What part of the skeletal system consists of the skull, breastbone, ribs and vertebrae?

A. Systematic
B. Vertebral
C. Axial
D. Appendicular

The appendicular skeleton consist of what parts?

A Head, sternum, ribs and vertebrae

C Feet, head, legs, ribs and arms

B Hands, feet, legs, hips and arms

D Hips, head, toes and fingers

The point at which two bones come together is what?

A. Ligaments
B. Pivot
C. Ossification
D. Joint

The fibrous bands that connects two bones in a joint are

A. Cartilage
B. Tendons
C. Ligaments
D. Strings

The process in which cartilage is replace by bone is called what?

A. Synovial Fluid
B. Ossification
C. Compact bone
D. Fracture

A break in the bone is called

A. Fracture
B. Bursitis
C. Sprain
D. Torn cartilage

Skeletal muscles are

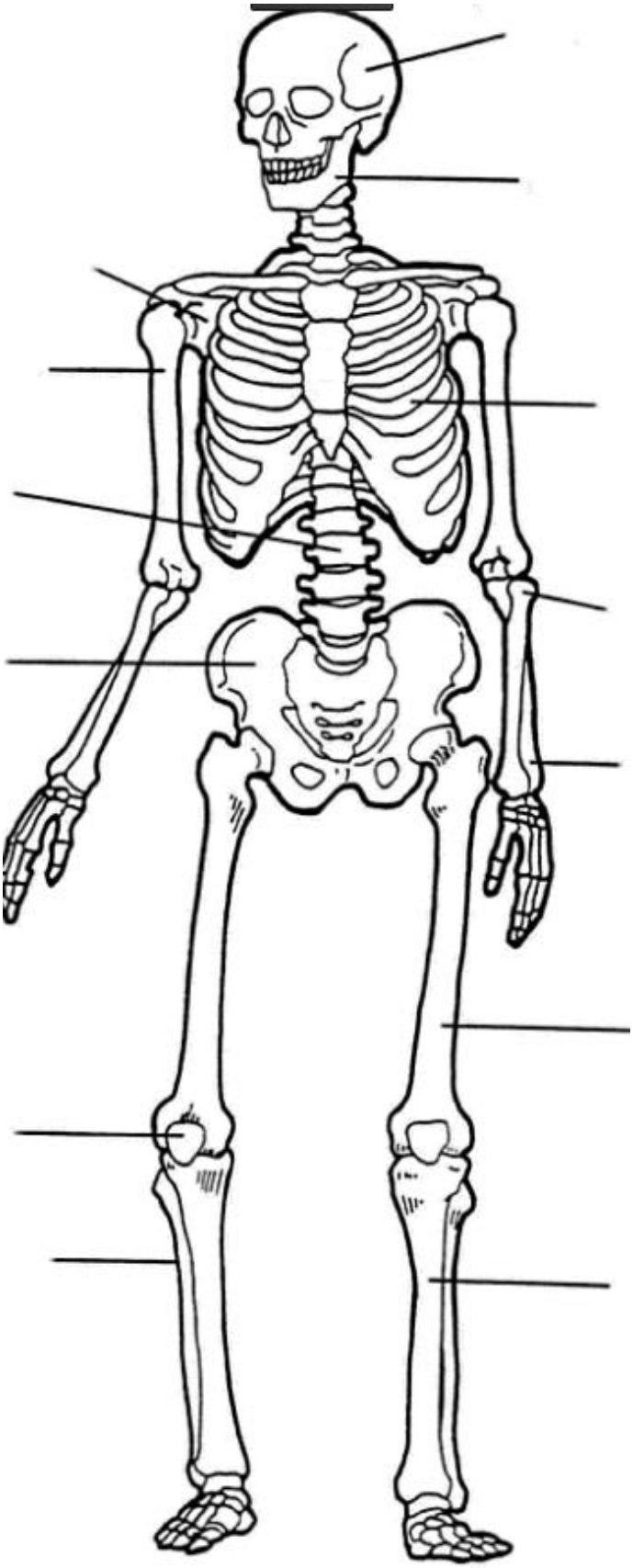
A. Involuntary
B. Voluntary

Your stomach muscle is

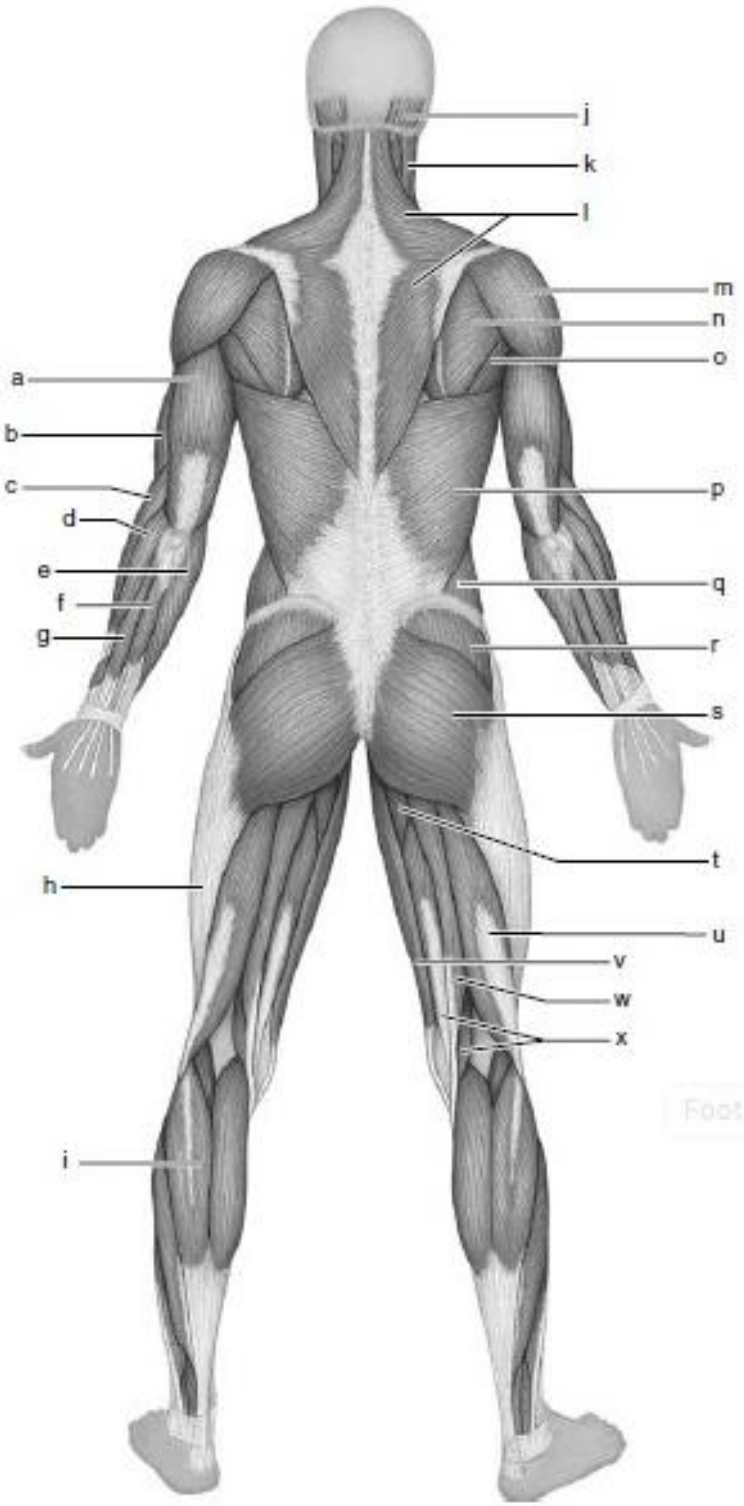
A. Involuntary
B. Voluntary

How do muscles work together?

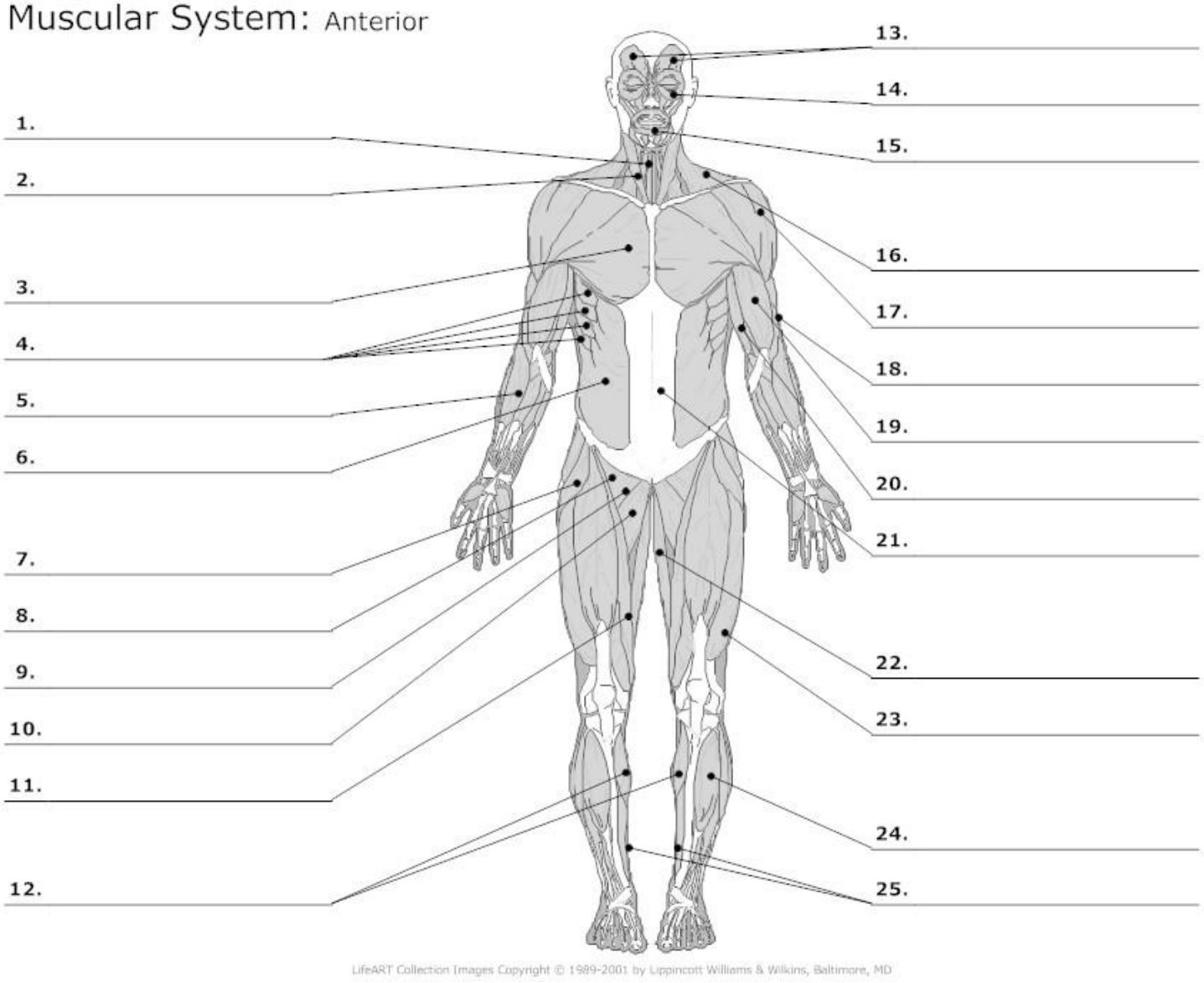
A. Stretch and pull
B. Up and down
C. Contraction and Extension
D. Right and left



2. biceps femoris
3. brachialis
4. brachioradialis
5. deltoid
6. extensor carpi radialis longus
7. extensor carpi ulnaris
8. extensor digitorum
9. external oblique
10. flexor carpi ulnaris
11. gastrocnemius
12. gluteus maximus
13. gluteus medius
14. gracilis
15. iliotibial tract (tendon)
16. infraspinatus
17. latissimus dorsi
18. occipitalis
19. semimembranosus
20. semitendinosus
21. sternocleidomastoid
22. teres major
23. trapezius
24. triceps brachii



Muscular System: Anterior



Describe the following parts of a long bone:

Periosteum:

Diaphysis:

Epiphysis:

Red bone marrow:

Yellow bone marrow:

Articular cartilage:

Epiphyseal disk: