

KNOWLEDGE CHECK

MOVEMENT MECHANICS

Possible Marks 100

Achieved

MOVEMENT AND MUSCLES

BE **MORE.**

MOVEMENT MECHANICS

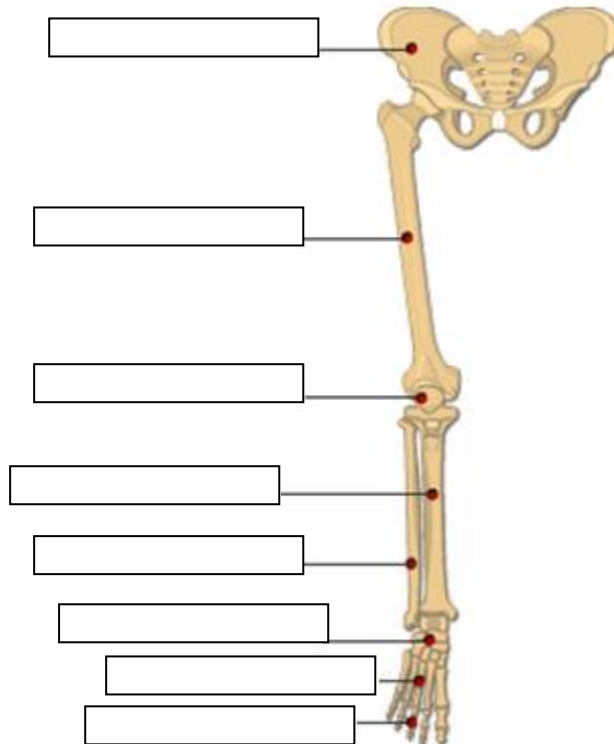
1. List the three PLANES of movement and give one example of a common gym exercise for each (6)

a. _____ example: _____

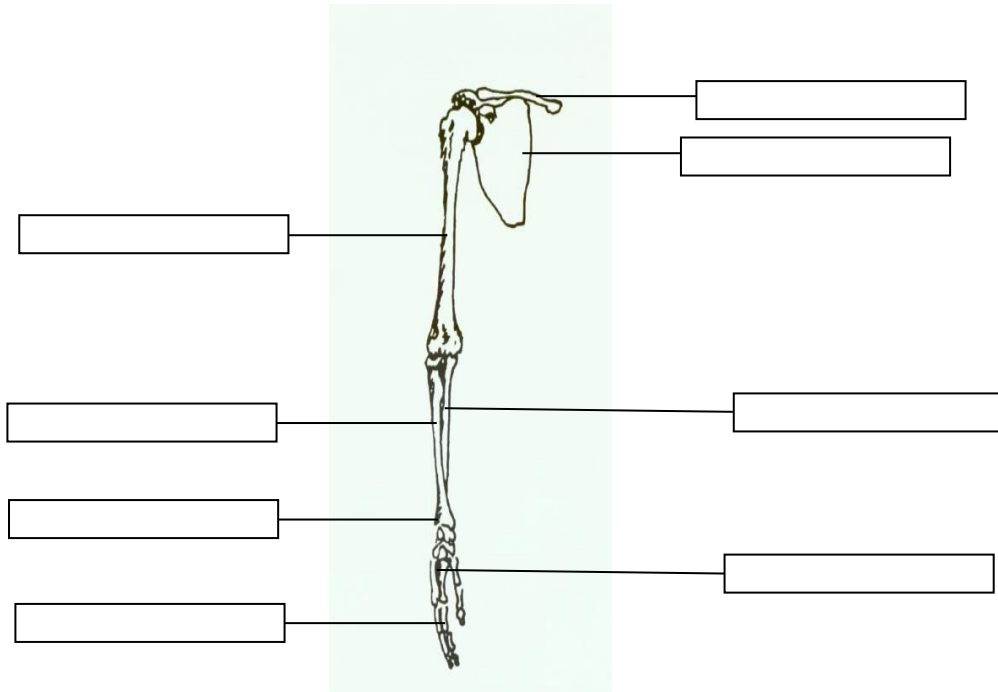
b. . _____ example: _____

c. . _____ example: _____

2. Label the bones on the diagram below (4)



3. Label the bones on the diagram below (4)



4. List the 9 movements available at the shoulder joint (9)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

5. Flexion and extension take place in which plane? (1)

6. Abduction and adduction at the shoulder occur in which plane? (1)

7. Internal and external rotation at the hip and shoulder joint occur in which plane? (1)

8. Skeletal muscles attach to a bone via which structure: (1)

- a. Cartilage
- b. Ligaments
- c. Tendons
- d. Muscle



9. Ligaments attach: (1)

- a. Muscle to Bone
- b. Bone to Bone
- c. Bone to Muscle
- d. Muscle to Muscle



10. Link each type of synovial joint to the correct example in the human body (3)

Ball & Socket

Hinge

Pivot

Radio-Ulnar

Knee

Hip

11. List the muscles that make up the following: (9)

Quadriceps

Hamstrings

Calves

i. _____

i. _____

i. _____

ii. _____

ii. _____

ii. _____

iii. _____

iii. _____

iv. _____

12. List the 4 prime movers (agonists) that cross the shoulder joint bringing about movement of the humerus in the shoulder joint? (4)

i. _____

ii. _____

iii. _____

iv. _____

13. What type of muscle contraction is occurring if the muscle working is getting: (3)

Shorter under load _____

Longer under load _____

No change in length under load _____

14. Which of the following statements regarding Muscle Fibre Types are **TRUE**? (1)

- a. *Type I* muscle fibres are also known as **fast twitch** muscle fibres
- b. *Type IIb* muscle fibres have a **high endurance** capacity
- c. *Type I* muscle fibres are relatively **large muscle fibres**
- d. *Type IIb* muscle fibres can produce a relatively **high force output**



15. List three muscles that create movement in the Sagittal plane (3)

i. _____

ii. _____

iii. _____

16. What muscle is the antagonist to erector spinae? (1)

- a. Quadratus Lumborum
- b. Gluteus Maximus
- c. TVA
- d. Rectus Abdominus



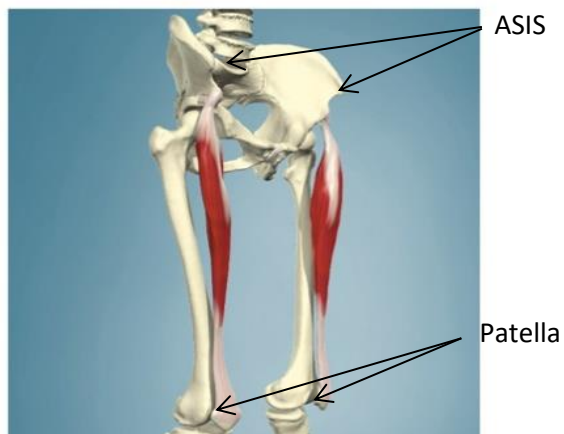
17. What are the actions of the hamstring group of muscles? (1)

- a. Hip flexion and knee extension
- b. Hip and knee extension
- c. Hip extension and knee flexion
- d. Hip and knee flexion



18. Which action is performed by the muscle pictured below? (1)

- a. Hip Flexion and knee Extension
- b. Hip Extension and knee Extension
- c. Hip Abduction
- d. Hip Adduction



19. Latissimus dorsi: (1)

- a. Acts at the shoulder joint and its action is extension, horizontal extension and internal rotation
- b. Acts at the shoulder joint and its action is extension, adduction and internal rotation
- c. Acts on the back and its action is extension, lateral flexion and adduction
- d. Acts on the back and its action is extension and lateral flexion



20. The Gastrocnemius crosses two joints and is involved in which of the following movement(s)? (1)

- a. Knee Extension and Ankle Dorsiflexion
- b. Knee Flexion and Ankle Dorsiflexion
- c. Knee Extension and Ankle Plantarflexion
- d. Knee Flexion and Ankle Plantarflexion



21. What is the **primary** function of the rotator cuff muscles? (1)

22. The trapezius muscle is a prime mover of the humerus during shoulder extension, TRUE or FALSE? (1)

True

False

23. Complete the following table during the concentric phase of a Squat: (9)

JOINT NAME	MOVEMENT NAME	PRIME MOVER (MUSCLE)

24. Complete the following table during the concentric phase of a Bench Press (wide): (7)

JOINT NAME	MOVEMENT NAME	PRIME MOVER (MUSCLE)

25. Complete the following table during the concentric phase of a Seated Row (narrow): (8)

JOINT NAME	MOVEMENT NAME	PRIME MOVER (MUSCLE)

26. List 5 muscles that cross shoulder joint: (5)

- i) _____ iv) _____
 ii) _____ v) _____
 iii) _____

27. Which structures send information from the central nervous system to working muscles? (1)

- a. Sensory neurons
- b. Motor neurons
- c. Proprioceptors
- d. Motor units



28. What is the function of Golgi Tendon Organ? (1)

- a. Registers increases in muscle tension / contraction
- b. Registers changes in muscle temperature
- c. Registers change in length of the muscle
- d. Registers speed of movement of a limb



29. What is the function of the muscle spindles? (1)

- a. Registers increases in muscle tension / contraction
- b. Registers changes in muscle temperature
- c. Registers change in length of the muscle
- d. Registers speed of movement of a limb



30. [a] In a wide grip Lat Pull Down what is the movement at the shoulder when you pull the bar down to the top of your chest? (1)

Flexion | Extension | Abduction | Adduction _____

[b] Which of these muscles brings about this movement? (1)

Medial Deltoid | Lats | Traps | Rhomboids _____

[c] In a Shoulder Press what is the movement as you push the DBs up? (1)

Flexion | Extension | Abduction | Adduction _____

[d] What is the muscle that brings about this movement? (1)

Medial Deltoid | Lats | Traps | Rhomboids

[e] Which one of these 4 quadricep muscles crosses two joints? (1)

Vastus Lateralis | Vastus Medialis | Vastus Intermedius | Rectus Femoris _____

[f] In a Leg Press what is the movement at both the hips and knee as you push the plate away from you? (1)

Flexion | Extension | Abduction | Adduction _____

[g] In a Chest Press (narrow grip / elbows in) what is the movement as you push? (1)

Horizontal Flexion | Horizontal Extension | Flexion | Extension _____

[h] In a Seated Row what is the movement as you pull the handle towards you? (1)

Flexion | Extension | Abduction | Horizontal Extension _____

[i] What muscle brings about shoulder extension? (1)

Posterior Deltoid | Anterior Deltoid | Medial Deltoid | Traps _____

[j] What muscle brings about shoulder abduction? (1)

Lats | Posterior Deltoid | Biceps | Medial Deltoid _____

DONE!