

- _____ 1. The cardinal frontal plane divides the body into equal _____.
A. right and left halves.
B. front and back halves.
C. top and bottom halves.
D. medial and lateral halves.
- _____ 2. Elbow extension takes place in what plane?
A. sagittal
B. frontal
C. transverse
D. longitudinal
- _____ 3. A dancer performs a pirouette in which plane?
A. sagittal
B. frontal
C. transverse
D. longitudinal
- _____ 4. Nodding the head "yes" occurs in which plane?
A. sagittal
B. frontal
C. transverse
D. oblique
- _____ 5. Which of the following terms best describes translational motion along a curved line?
A. rectilinear
B. curvilinear
C. rotational
D. general
- _____ 6. Which of the following motions occurs primarily in the sagittal plane?
A. running
B. a cartwheel

C. a pirouette

D. all of the choices are correct

7. Abduction occurs in which plane?

A. sagittal

B. frontal

C. transverse

D. it depends on the action being performed

8. Which of the following limb movements occur during "jumping jacks"?

A. flexion and abduction

B. extension and adduction

C. flexion and extension

D. adduction and abduction

9. During the preparatory phase for an underhand softball pitch, the hand holding the ball is drawn behind the body prior to the forward swing of the arm. When the hand is drawn behind the body, which of the following movements occurs at the shoulder?

A. flexion

B. extension

C. hyperextension

D. circumduction

10. Which of the following are transverse plane movements at the shoulder?

A. horizontal abduction

B. medial rotation

C. both horizontal abduction and medial rotation

D. none of the choices are correct

11. Which of the following is/are examples of superficial muscle(s)?

A. biceps

B. triceps

C. gastrocnemius

D. all of the choices are correct

12. Which of the following terms would accurately describe the biceps muscle?

A. anterior

B. posterior

C. medial

D. lateral

13. In anatomical position what is the position of the elbow?

A. 180°

B. 0°

C. need more information

D. none of the choices are correct

14. Internal rotation is synonymous with which of the following?

A. medial rotation

B. lateral rotation

C. external rotation

D. none of the choices are correct

15. Which of the following is true regarding horizontal adduction?

A. also called horizontal flexion

B. occurs in the transverse plane

C. it is also called horizontal flexion and it occurs in the transverse plane

D. none of the choices are correct

16. Which is true about the Cartesian coordinate system?

A. It is a special reference system used by biomechanists.

B. It can be used to describe two-dimensional *or* three-dimensional motion.

C. It is both a special reference system used by biomechanists and it can be used to describe two-dimensional *or* three-dimensional motion.

D. none of the choices are correct

17. Which of the following units is unique to three-dimensional Cartesian coordinate systems (i.e. do not exist in 2-D systems)?

A. x

B. y

C. z

D. all of the above are unique to 3-D systems

18. Which of the following could be defined by a movement analyst as a mechanical system?

A. entire human body

B. right arm

C. projected ball

D. all of the choices are correct

19. Which of the following is a *linear* movement in the frontal plane?

- A. shoulder adduction
- B. shoulder girdle elevation
- C. shoulder flexion
- D. both shoulder adduction and shoulder girdle elevation

FILL IN THE BLANK QUESTIONS

20. The word qualitative refers to a description of quality without the use of numbers.

21. Translation is a synonym for _____ motion.

22. Rectilinear describes motion along a straight line, whereas curvilinear describes motion along a curved line.

23. Ventral is a synonym for anterior, which means toward the front of the body.

24. The Anteroposterior axis is the imaginary line around which sagittal plane motion occurs.

SHORT ANSWER QUESTIONS

25. What are the two main sources of information for the analyst diagnosing a motor skill?

1- kinematics

2- Performance outcome

26. Describe the steps that should be taken when planning a qualitative analysis.

1- Identifying the problem. 2- Making decisions.

3- collecting observations. 4- Interpreting observations

5- Communicate with the performer

SHORT ANSWER QUESTIONS

25. What are the two main sources of information for the analyst diagnosing a motor skill?

1. Kinematics or technique exhibited by the performer.
2. Performance outcome.

26. Describe the steps that should be taken when planning a qualitative analysis.

- 1- Identify question/problem: observation made may suggest new question of interest.
- 2- Make Decisions.
- 3- Collect observations
4. Interpret Observations.
5. Communicate with performer.

27. To supplement visual observations, the analyst can often use non-visual information. Describe two examples of auditory information that could be used during a qualitative analysis.

1. The sound of a patient's gait usually reveals whether an asymmetry is present. 2. The crack of a baseball bat hitting a ball indicates that the contact was direct rather than glancing.

28. Describe three different tools used to collect and analyze kinematic data and provide the strengths and weaknesses of each tool. Include both high tech and low tech examples.

Camera: Allows you to watch an image of movement in many positions.
Strength: that makes you able to analyze very well. Low: choose

Right rate of images which is up to 2000 Hz. 2. Accelerometer: is a sensor which measures acceleration. Strength: determine orientation of part with respect to ground. Low: sensitive to over limited temperature.

3. Data collection: Marks attached to joint to see the movement of body.
Strength: gives an information of the joints movement.

Low: number of camera needed to capture all marks.