2.4 Movement Analysis: Joint Actions and Joint Types: Test Pack

AQA 8582 · Calculators not allowed · about 15 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Which of the following joint actions would NOT be possible at a hinge joint such as the knee?

- ☐ A) Flexion
- ☐ B) Extension
- ☐ C) Abduction
- ☐ D) None of these; all are possible at a hinge joint

(Total for Question 1 is 1 mark)

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2 Table 1 gives four short descriptions of what a joint type allows or does not allow.

Table 1

Row	Description
(a)	Allows rotation only, and no other movement
(b)	Allows flexion, extension, abduction and adduction, but not rotation
(c)	Allows the greatest range of movement of any joint type, including full rotation
(d)	Allows flexion and extension only, in one plane, like a door hinge

(a) Name the joint type described in row (a). **(1)**

(b) Name the joint type described in row (b). **(1)**

(c) Name the joint type described in row (c). **(1)**

(d) Name the joint type described in row (d). **(1)**

(Total for Question 2 is 4 marks)

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3 During the drive phase of a sprint start, a sprinter's foot presses hard against the blocks, with the ankle driving down and back as the foot leaves the ground. Identify the joint action at the ankle and the plane of movement.

(Total for Question 3 is 2 marks)

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4 State the joint type found at the elbow, and name the ONE pair of joint actions it allows.

(Total for Question 4 is 2 marks)

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5 Table 2 gives four sporting descriptions.

Table 2

Row	Description
(a)	A footballer points their toes down and away from the shin to strike a volley
(b)	A sprinter pulls their toes up towards the shin during the recovery phase of the running stride
(c)	A swimmer's arm moves through a full circular path during the recovery phase of front crawl, combining flexion, extension, abduction and adduction in sequence
(d)	A cricket bowler's whole arm turns around its own long axis during a delivery

(a) Name the joint action described in row (a). **(1)**

(b) Name the joint action described in row (b). **(1)**

(c) Name the joint action described in row (c). **(1)**

(d) Name the joint action described in row (d). **(1)**

(Total for Question 5 is 4 marks)

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6 State what is meant by 'circumduction', name the joint type(s) that allow it, and give a named sporting example.

(Total for Question 6 is 3 marks)

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Mark scheme · 2.4 Movement Analysis: Joint Actions and Joint Types: Test Pack

Question 1

C **B1**

Answer: C

Question 2

(a) pivot joint **B1**

(a) Answer: Pivot joint.

(b) condyloid joint or saddle joint (accept either) **B1**

(b) Answer: Condyloid or saddle joint.

(c) ball and socket joint **B1**

(c) Answer: Ball and socket joint.

(d) hinge joint **B1**

(d) Answer: Hinge joint.

Question 3

plantarflexion **B1**

sagittal plane **B1**

Answer: Plantarflexion, in the sagittal plane.

Question 4

hinge joint **B1**

flexion and extension **B1**

Answer: The elbow is a hinge joint, allowing flexion and extension.

Question 5

(a) plantarflexion **B1**

(a) Answer: Plantarflexion.

(b) dorsiflexion **B1**

(b) Answer: Dorsiflexion.

(c) circumduction **B1**

(c) Answer: Circumduction.

(d) rotation **B1**

(d) Answer: Rotation.

Question 6

a full circular movement of a limb, combining flexion, extension, abduction and adduction in one continuous sequence, oe **B1**

ball and socket, condyloid and saddle joints, oe **B1**

a correct named sporting example, e.g. the arm recovery in front crawl swimming, or the full circular arm swing in a cricket bowling action, oe **B1**

Answer: Circumduction is a full circular movement of a limb, combining flexion, extension, abduction and adduction in one continuous sequence. Ball and socket, condyloid and saddle joints allow it. One sporting example is the arm recovery phase of front crawl swimming at the shoulder.

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