

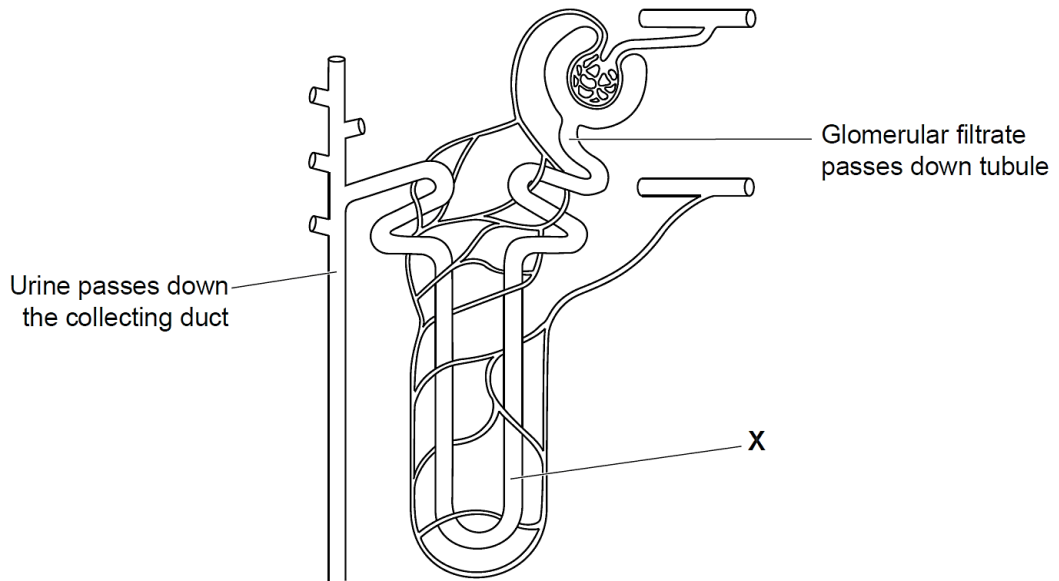
GCSE Biology A (Gateway)

J247/03 B1-B3 and B7 Higher (Higher Tier)

Question Set 10

1

The diagram shows a kidney tubule (nephron).



(a) (i) What is the name of part X?

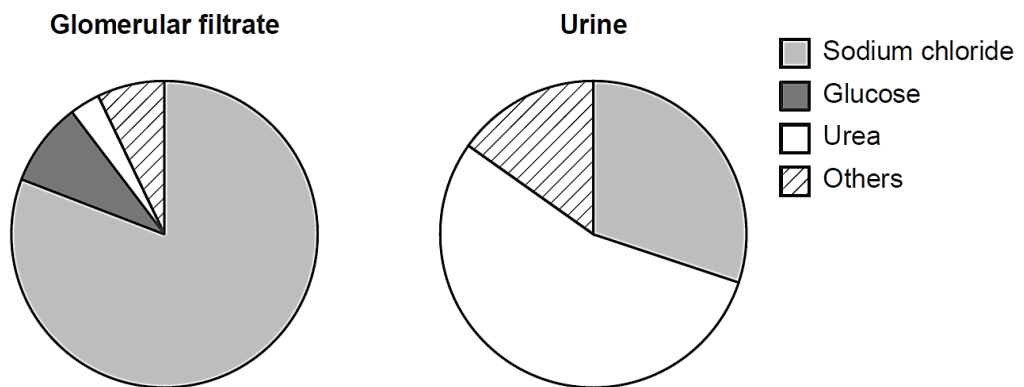
[1]

(ii) The hormone ADH affects the permeability of part of the kidney tubule.

Name the part of the tubule affected by ADH.

[1]

(b) The diagram shows the composition of glomerular filtrate and urine.



What evidence is there to suggest that selective reabsorption occurs in the kidney tubule?

Use evidence from the diagram to support your answer.

[4]

(c)* Sports drinks are usually one of three types. Look at the table of information on these types of sports drink.

Sports drink	Concentration of solutes relative to body fluids	Mass of carbohydrates (g)(mainly sugars)	Order of how quickly the drink is absorbed
Hypotonic	Less	<4	1
Isotonic	Same	4 – 8	2
Hypertonic	More	>8	3

An athlete is going to run a 10 000 metre race. About an hour before the race the athlete drinks a hypertonic sports drink.

The athlete completes the 10 000 metre race. After the race the athlete drinks an isotonic sports drink.

Explain how the race causes changes in water, salt and sugar levels in the athlete's body and explain the athlete's choice and timing of drinks.

[6]

Total Marks for Question Set 10: 12

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