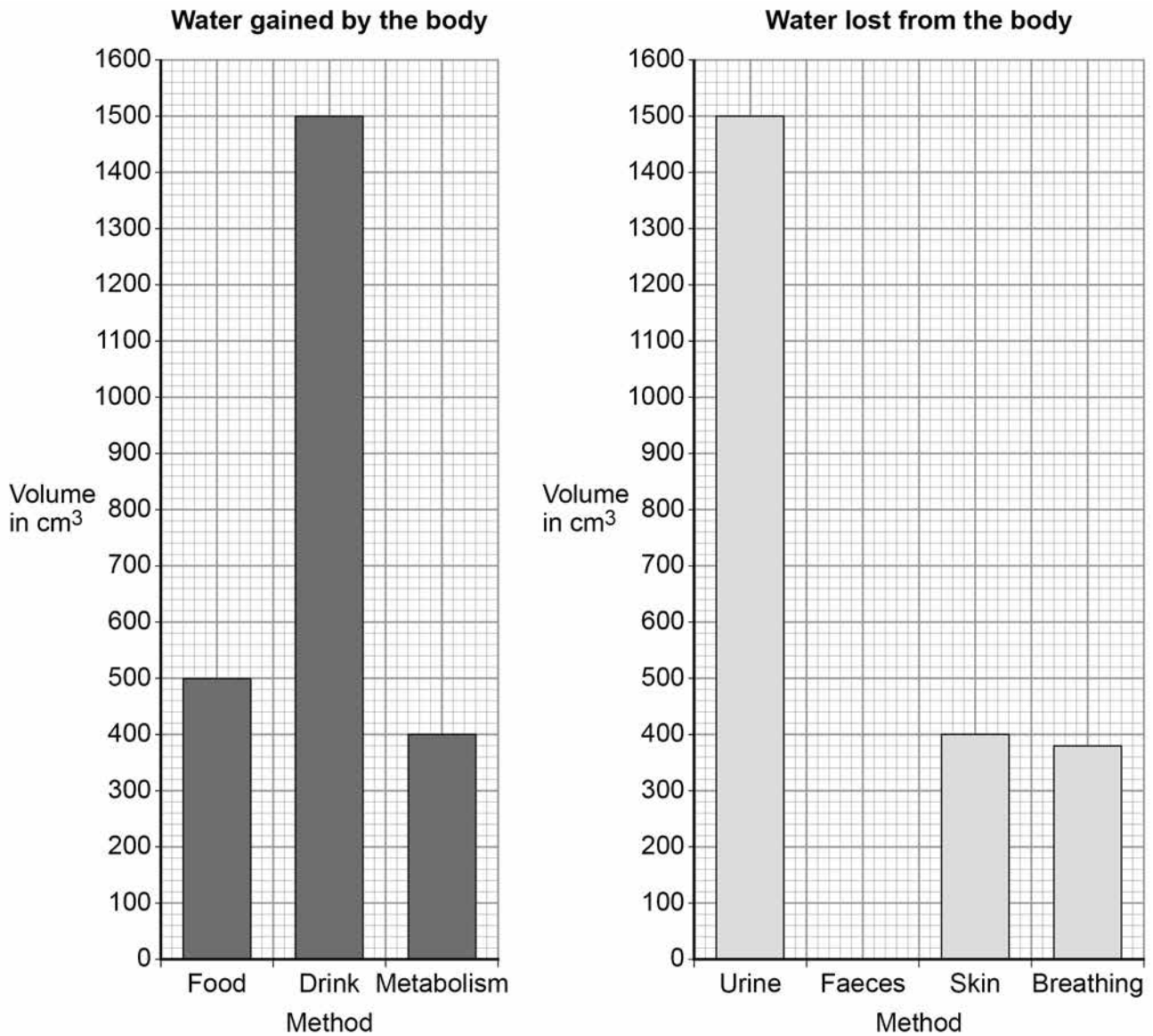


1 1

It is important to maintain water balance in the body.

Figure 15 shows how much water a person gained and lost by different methods in one day.

Figure 15



When water is balanced, the volume of water taken in by the body is equal to the volume of water lost from the body.

1 1 . 1 Calculate the volume of water the person lost in one day in faeces.

Use information from **Figure 15**.

[2 marks]

Volume lost in faeces = _____ cm³

1 1 . 2 **Figure 15** shows that one method of gaining water is by metabolism.

Which metabolic process produces water?

[1 mark]

Tick **one** box.

Breakdown of protein to amino acids

Changing glycogen into glucose

Digestion of fat

Respiration of glucose

Question 11 continues on the next page

Turn over ►



The next day, the person ran a 10-kilometre race.

The volume of water lost from the body through the skin and by breathing increased.

1 1 . 3 Explain why more water was lost through the skin during the race.

[2 marks]

1 1 . 4 Explain why more water was lost by breathing during the race.

[3 marks]

END OF QUESTIONS

8



Question	Answers	Extra information	Mark	AO / Spec. Ref.
11.1	2400 and 2280 or 500 and 380	an answer of 120 scores 2 marks	1	AO2 4.5.3.3
	120		1	
11.2	respiration of glucose		1	AO1 4.4.2.1 4.4.2.3
11.3	(more) sweating	ignore reference to vasodilation / vasoconstriction	1	AO2 4.5.2.4 4.5.3.3
	(because) exercise releases heat or need to cool the body or need to lose heat or need to maintain body temperature	do not accept energy being produced	1	
11.4	more energy needed (so) more (aerobic) respiration (so) increased breathing (rate / depth) (to supply oxygen or remove carbon dioxide / water)	'more' does not need to be stated a second time to gain marking point 1 and marking point 2 do not accept energy production do not accept energy needed for respiration	1	AO2 4.5.2.4 4.5.3.3
			1	
			1	
Total			8	