

Biology
Unit: 4BI1
Science (Double Award) 4SD0
Paper: 1BR

Tuesday 16 May 2023 – Morning

Diagram Booklet

In the boxes below, write your name, centre number and candidate number.

Surname					
Other names					
Centre Number					
Candidate Number					

INSTRUCTIONS

There may be spare copies of some diagrams in case you need them.

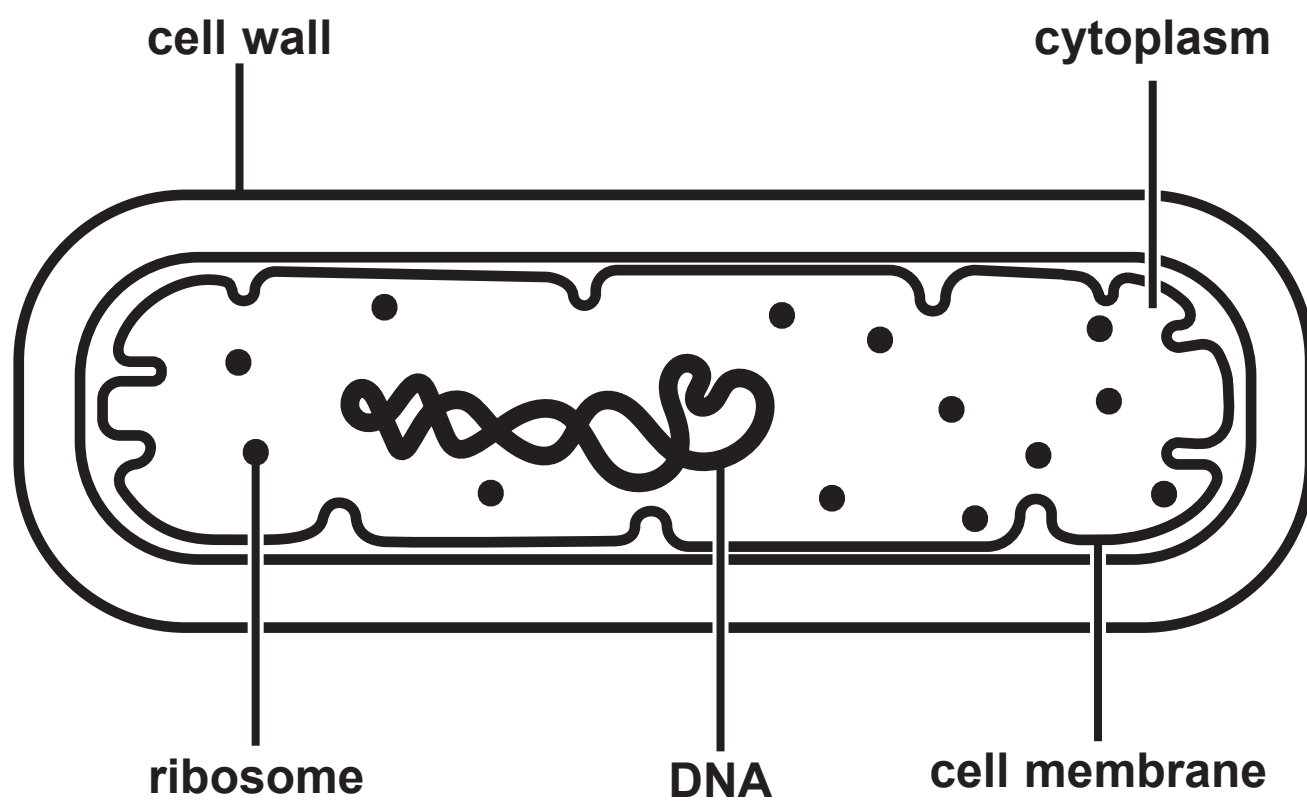
THIS DIAGRAM BOOKLET *MUST* BE RETURNED WITH THE QUESTION PAPER AT THE END OF THE EXAMINATION.

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Spare Copies	
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Question 1(a)(i)



Question 2(a)

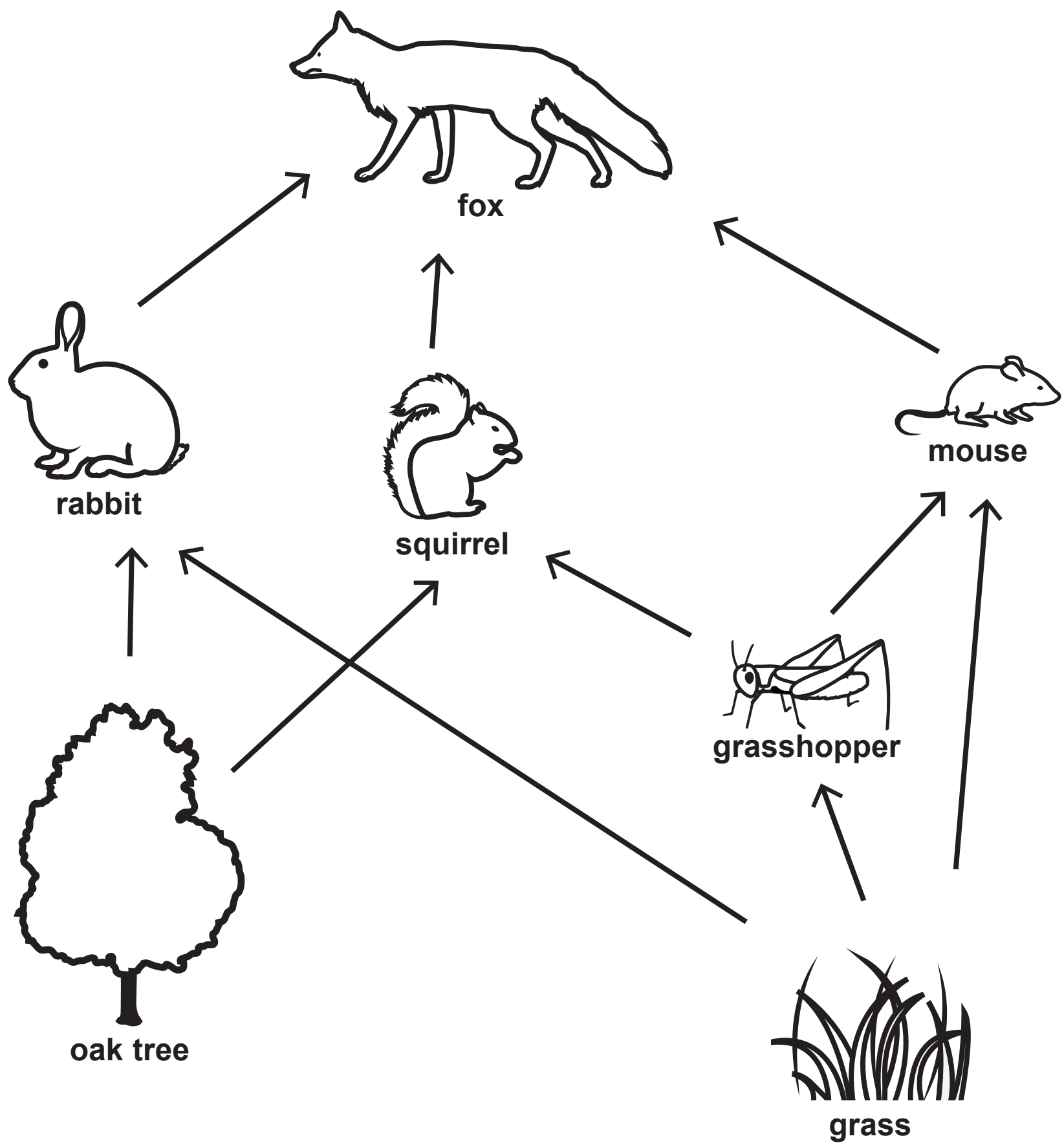
The black and white photograph shows a small handful of round, flat seeds.



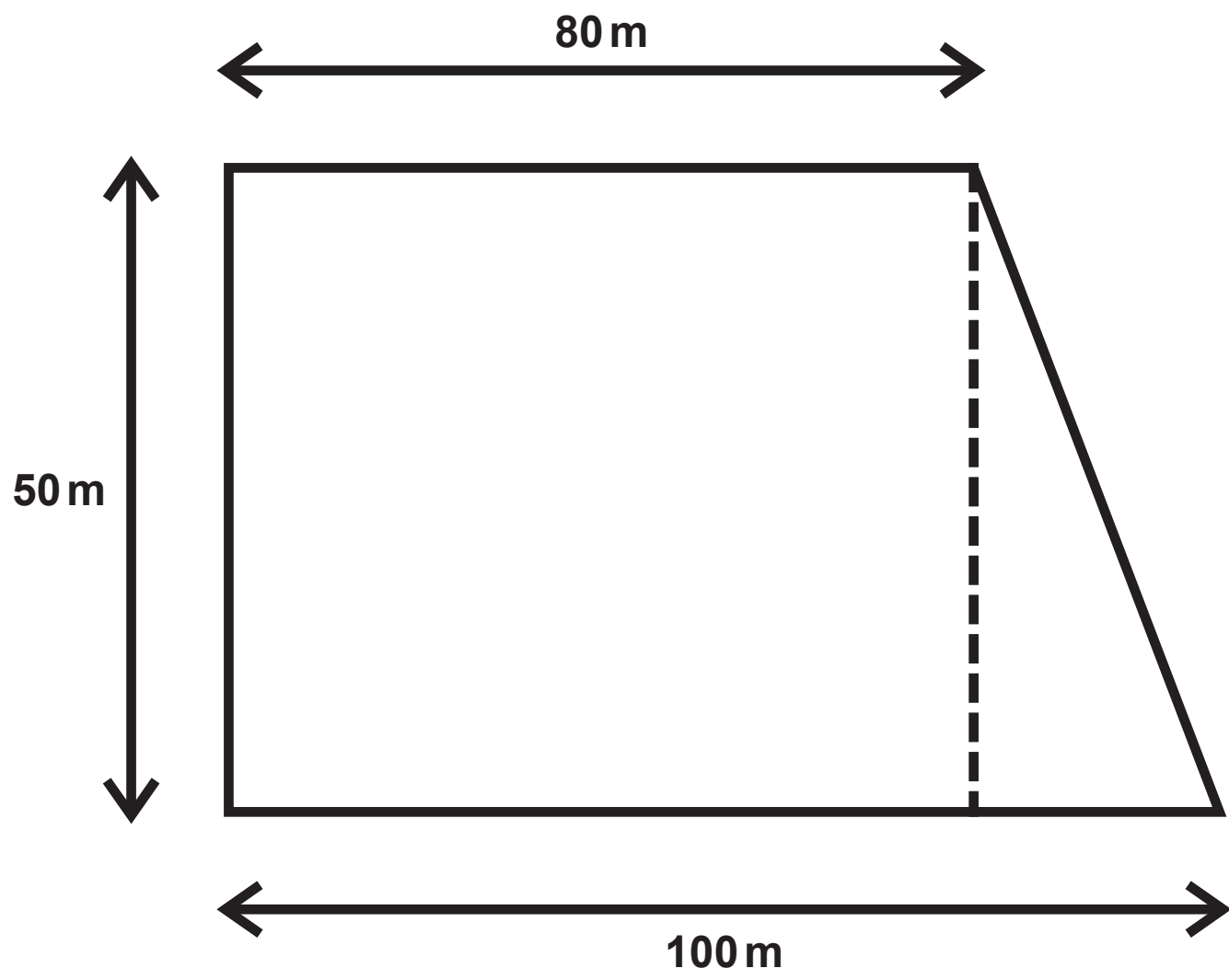
Question 2(b)

Nutrient	Percentage of RDA (%) provided by 50 g of lentils
fat	1
carbohydrate	11
protein	22
vitamin C	2
calcium	4

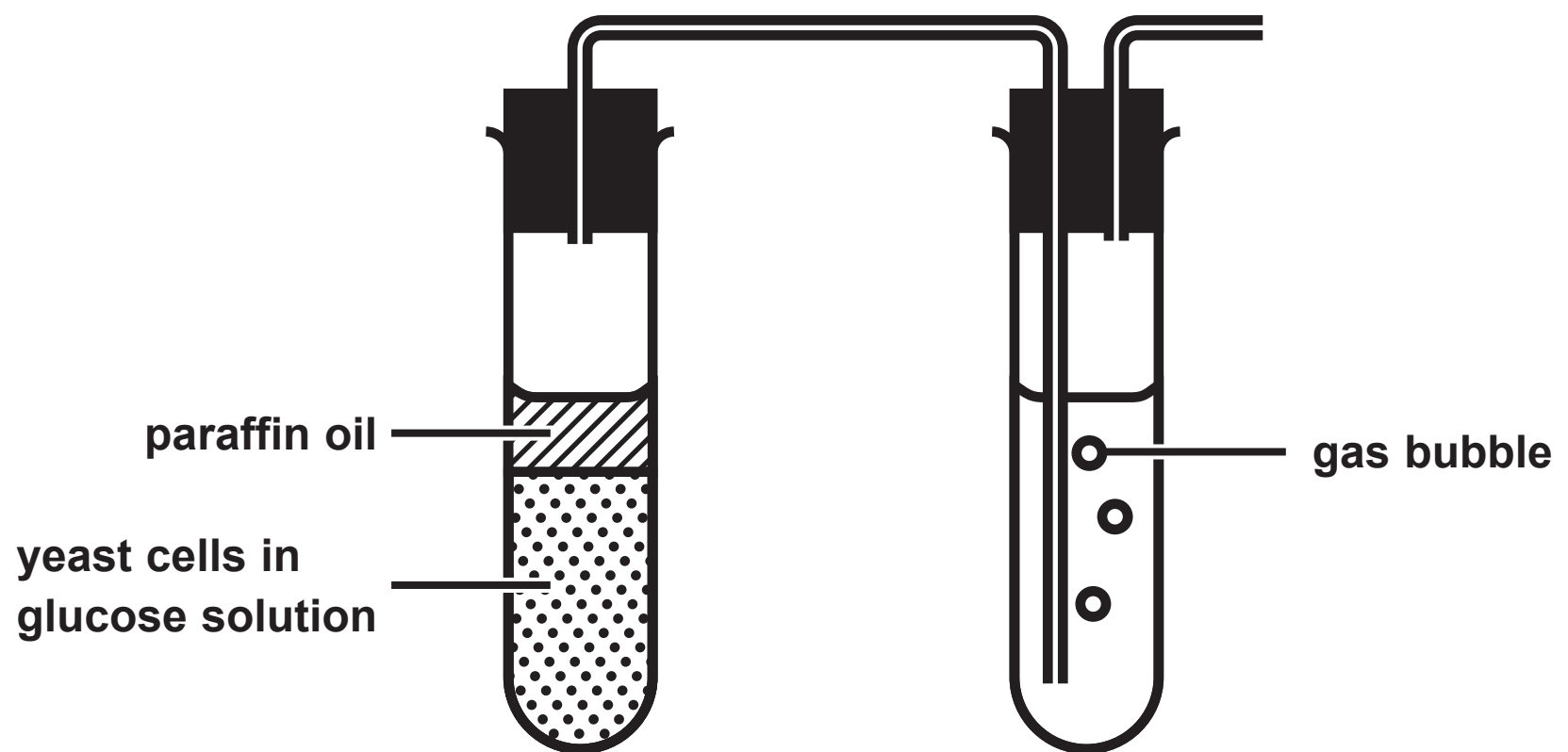
Question 3(a)



Question 3(b)(iii)



Question 4(b)



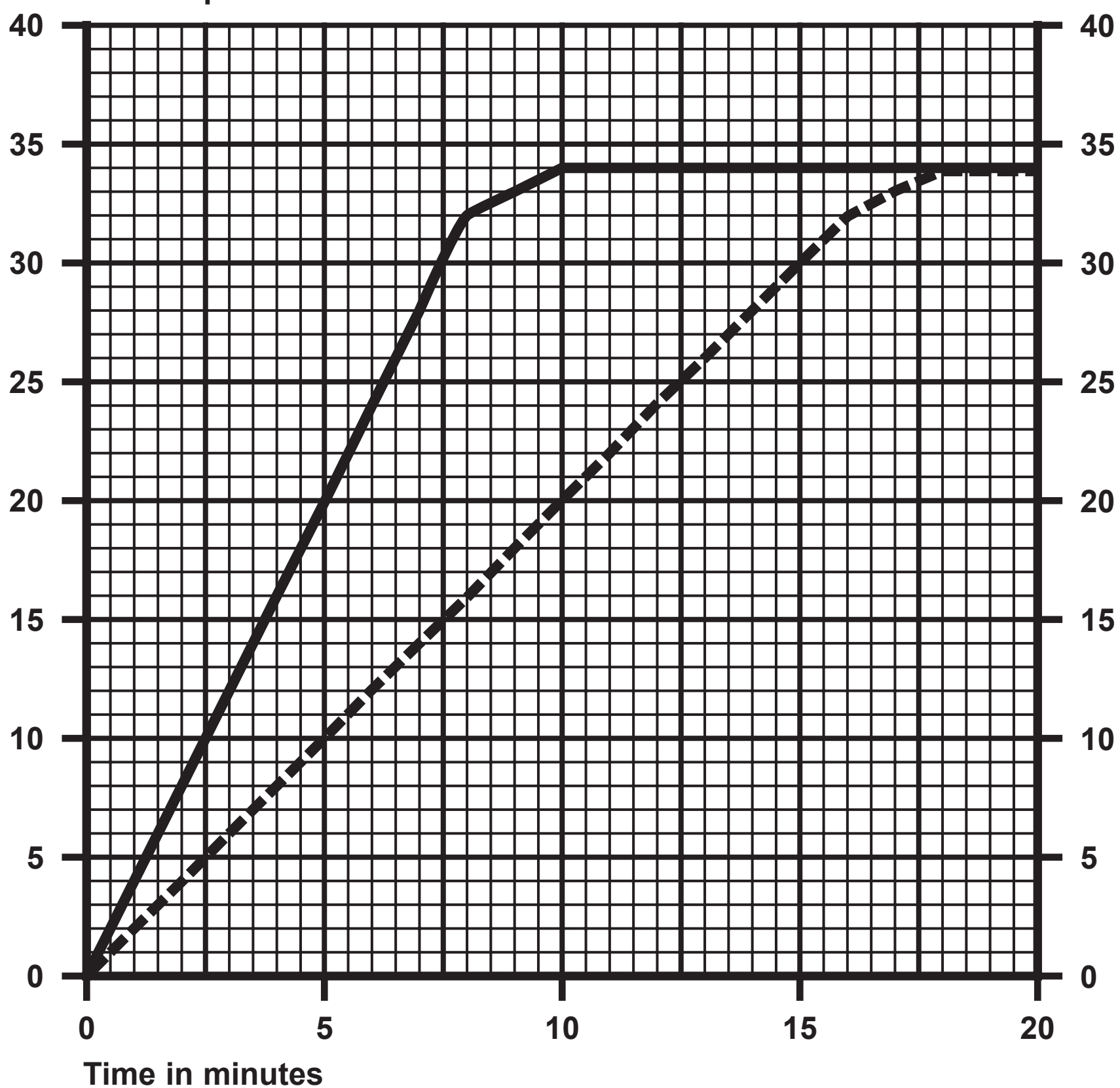
Question 4(b) – graph

KEY:

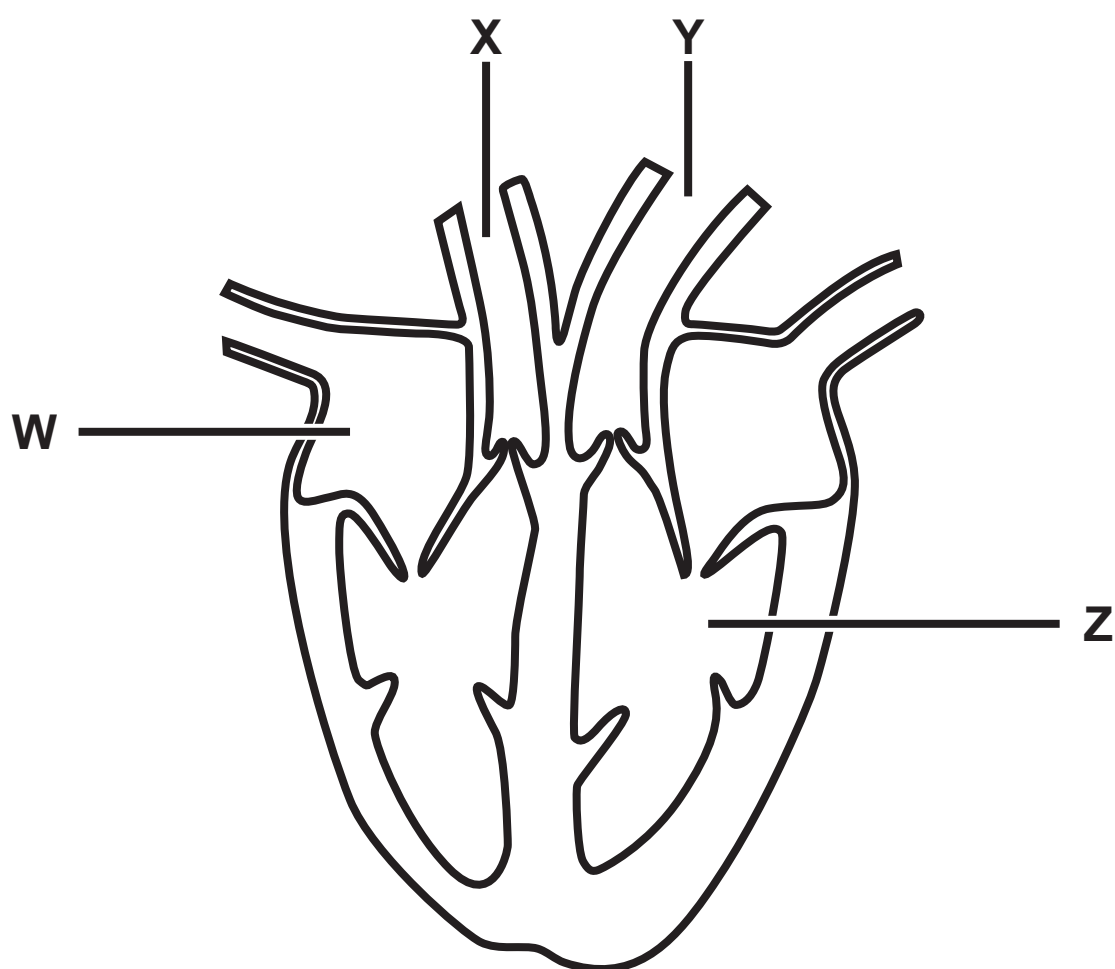
— 37°C

- - - 25°C

Total number of bubbles produced



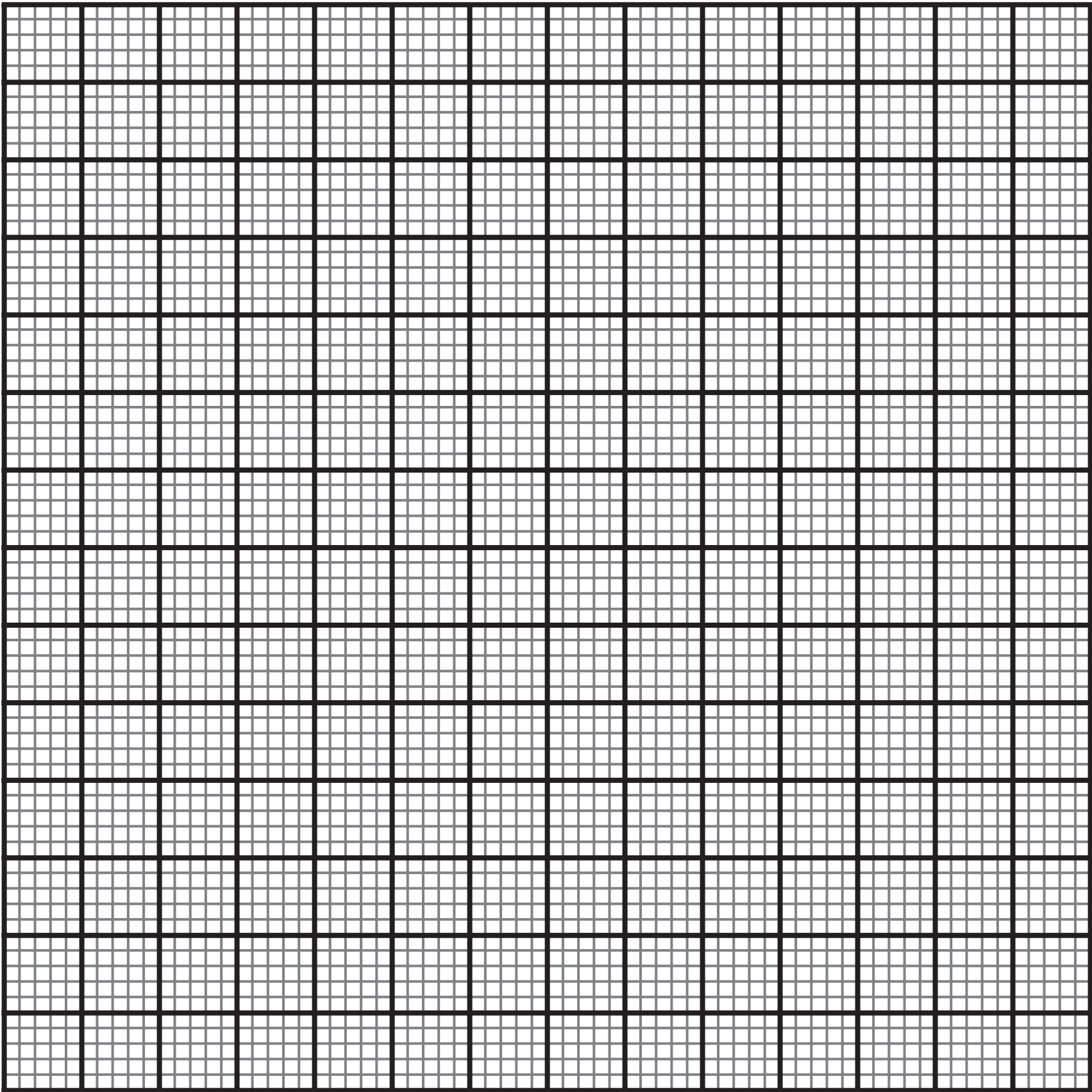
Question 5(a)



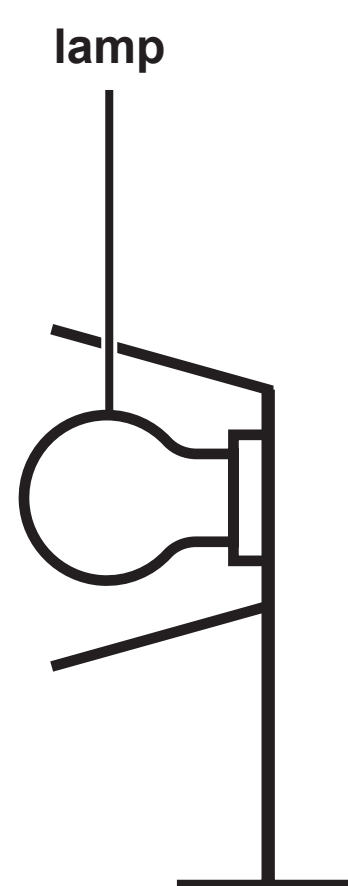
Question 5(b)

Time in minutes	Heart rate in beats per minute (bpm)	
	untrained volunteer	trained athlete
0 (rest)	65	55
2	120	95
4	130	115
6	150	135
10	100	80
12	80	60

Question 5(b)(ii) – grid



Question 6(a)



Question 6(b)(ii)

DIAGRAM 1

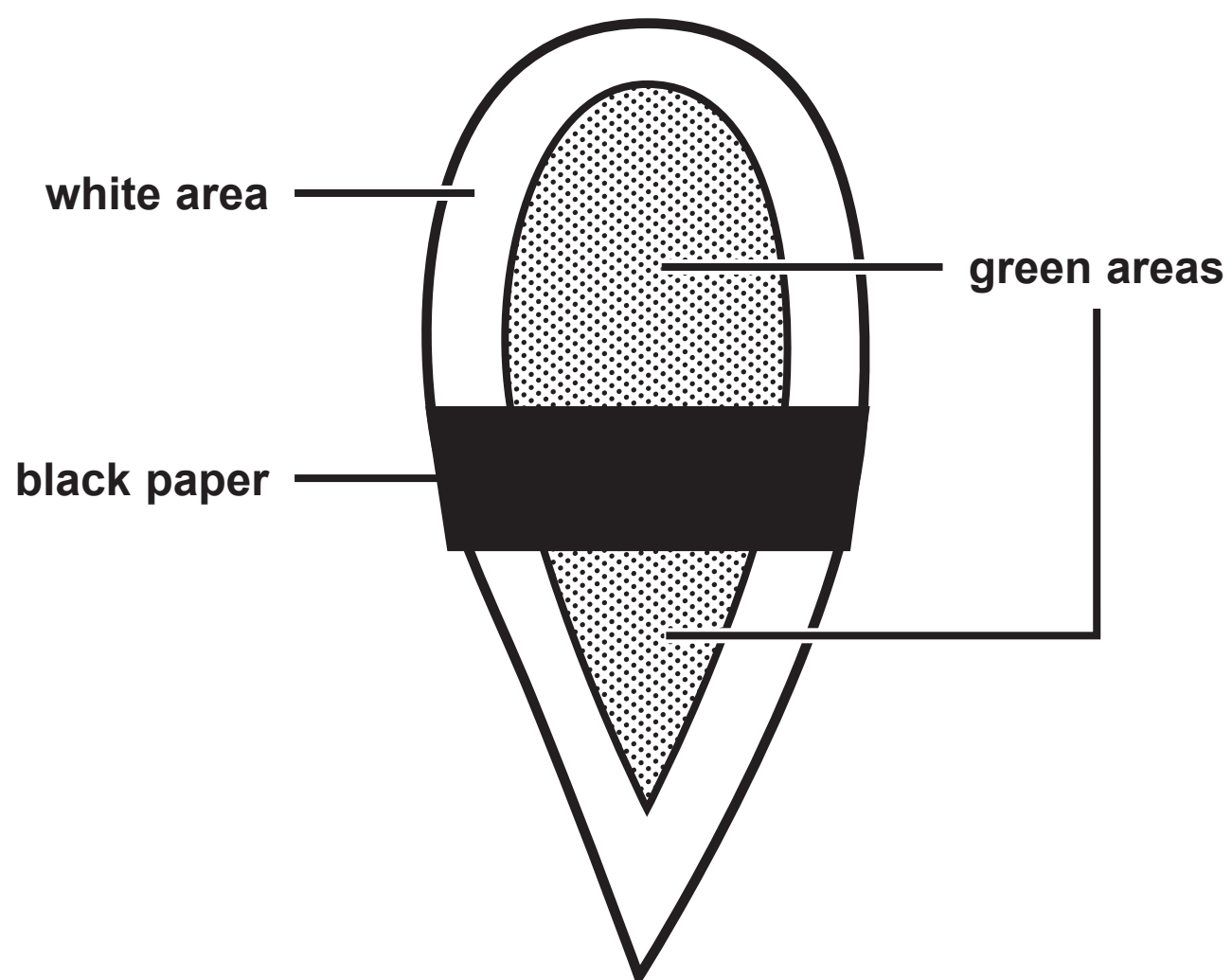
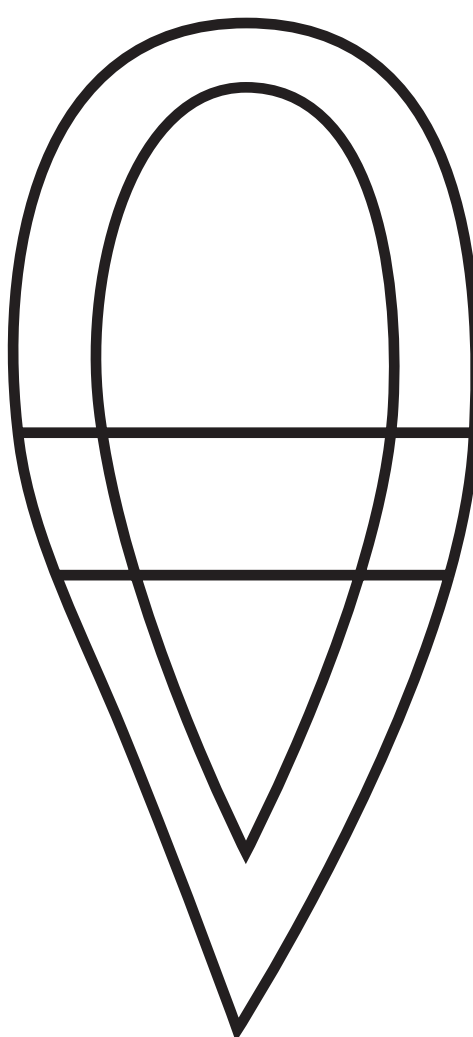
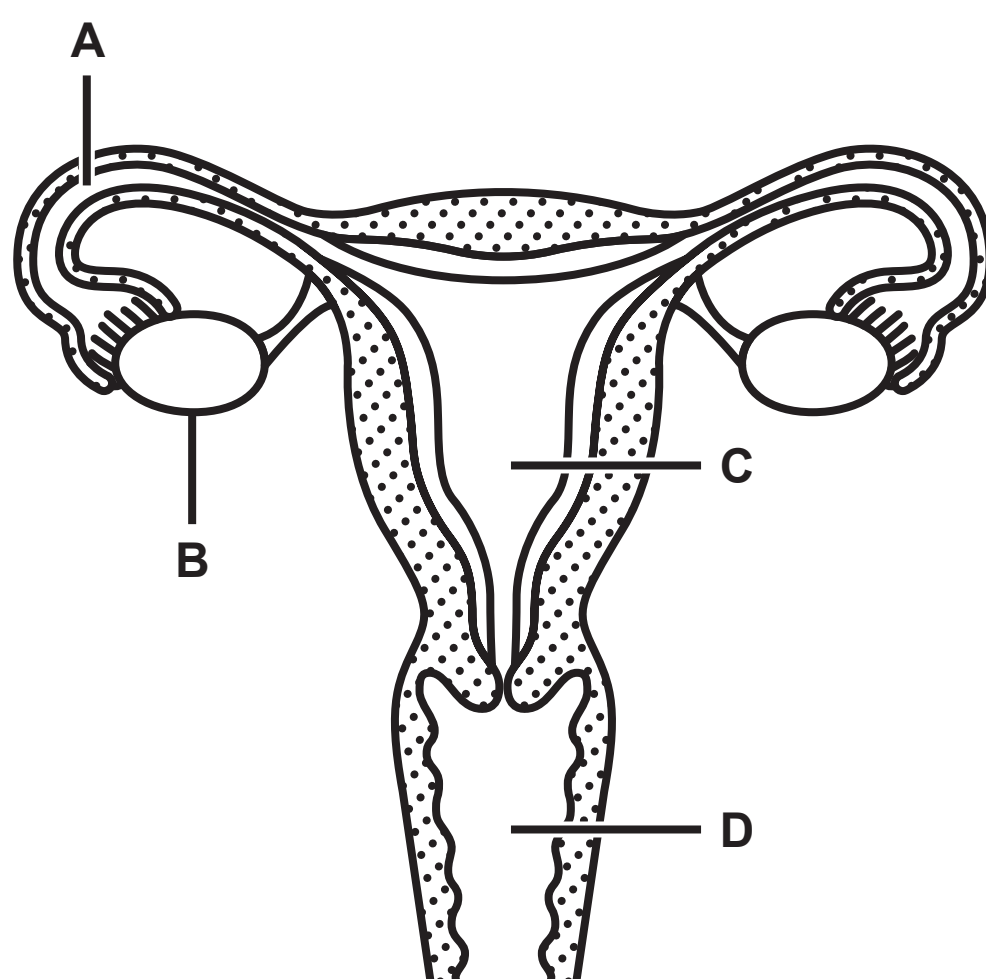


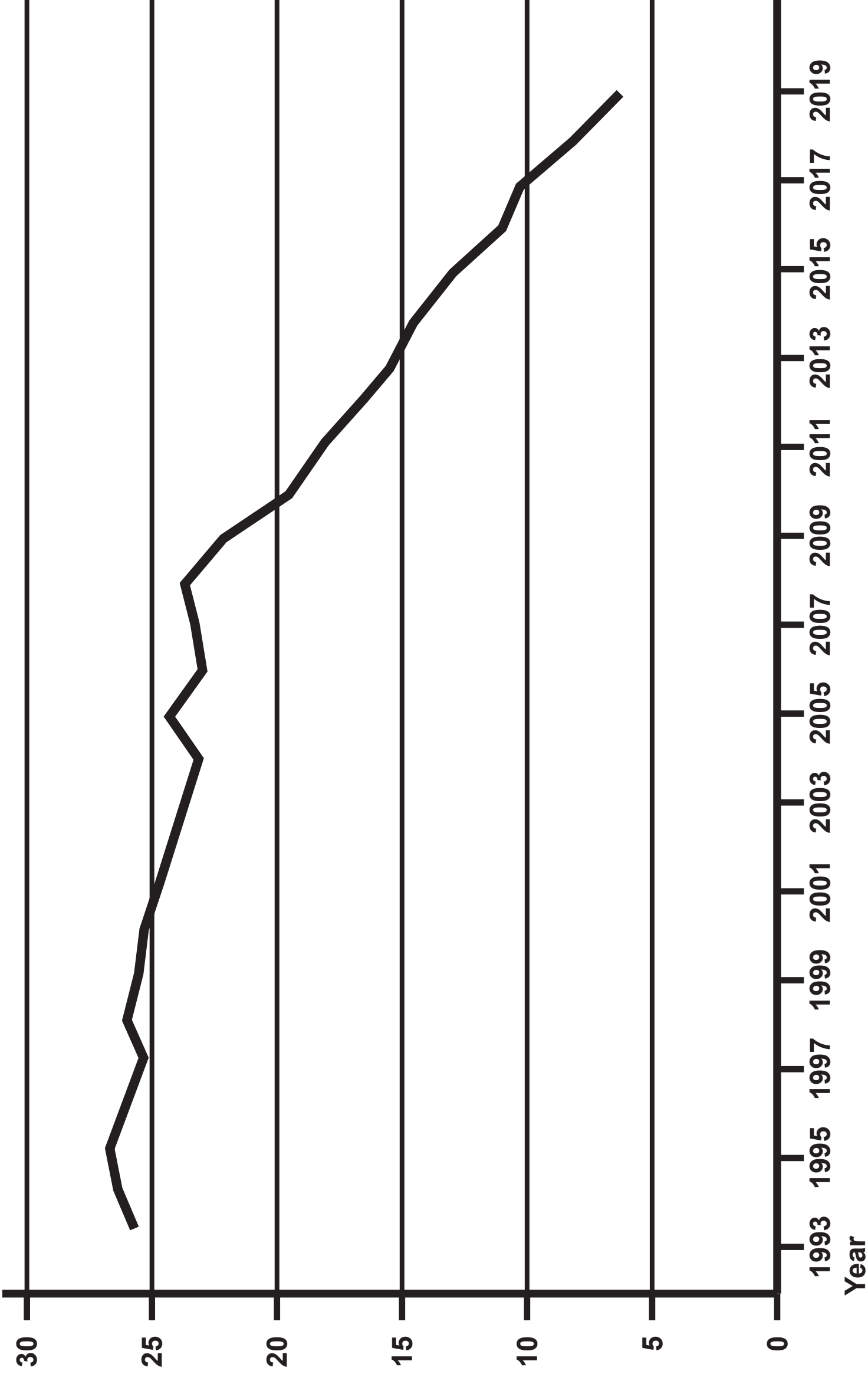
DIAGRAM 2



Question 7(a)

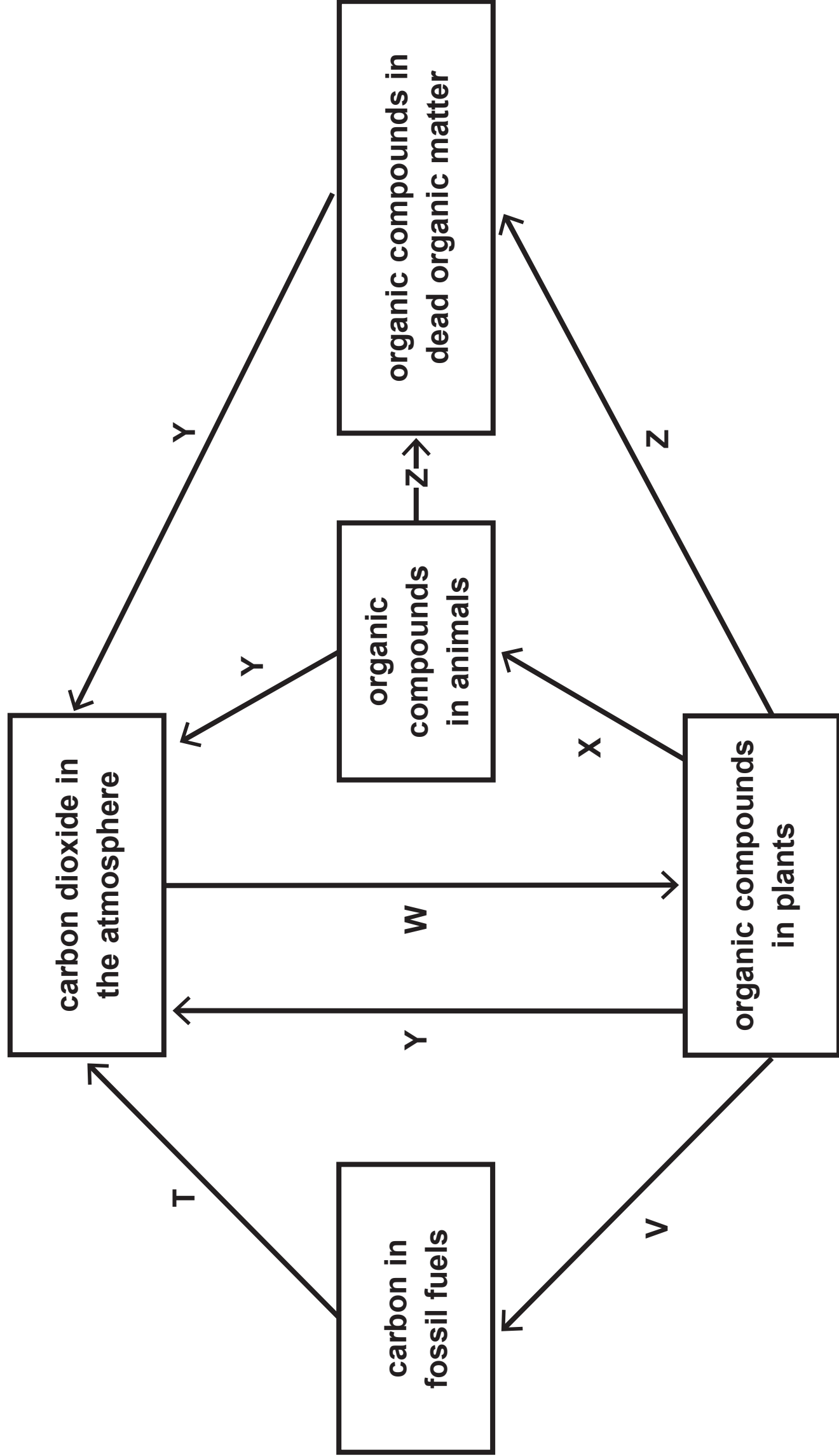


Percentage of IVF treatments
that led to multiple births.



Question 7(b)(ii) – table

Age of person receiving embryo in years	Percentage of IVF treatments that produced a baby (%)
under 35	32
35 to 37	28
38 to 39	19
40 to 42	11
43 to 44	5
45 to 50	4

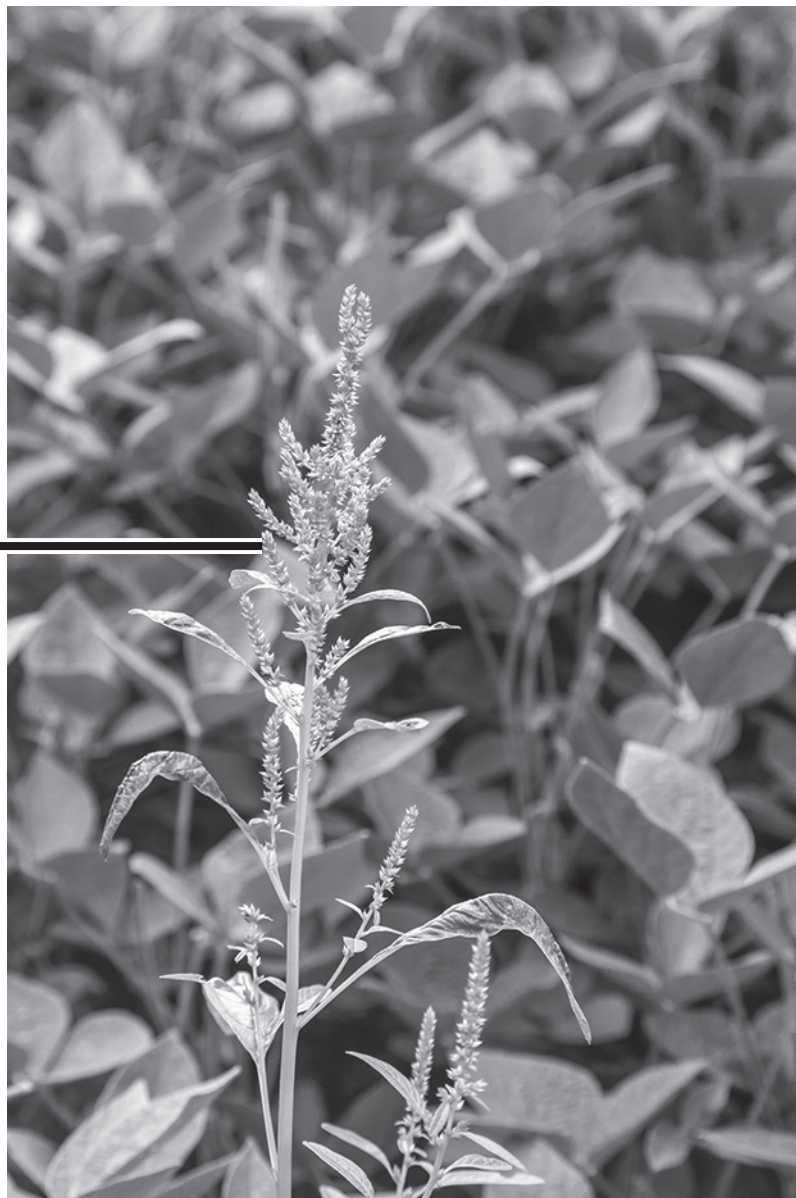


Greenhouse gas	Percentage of all greenhouse gas emissions (%)	Global Warming Potential (GWP)	Length of time gas stays in atmosphere in years
carbon dioxide	77·00	1	1000
methane	16·00	30	25
nitrous oxide	0·77	270	298

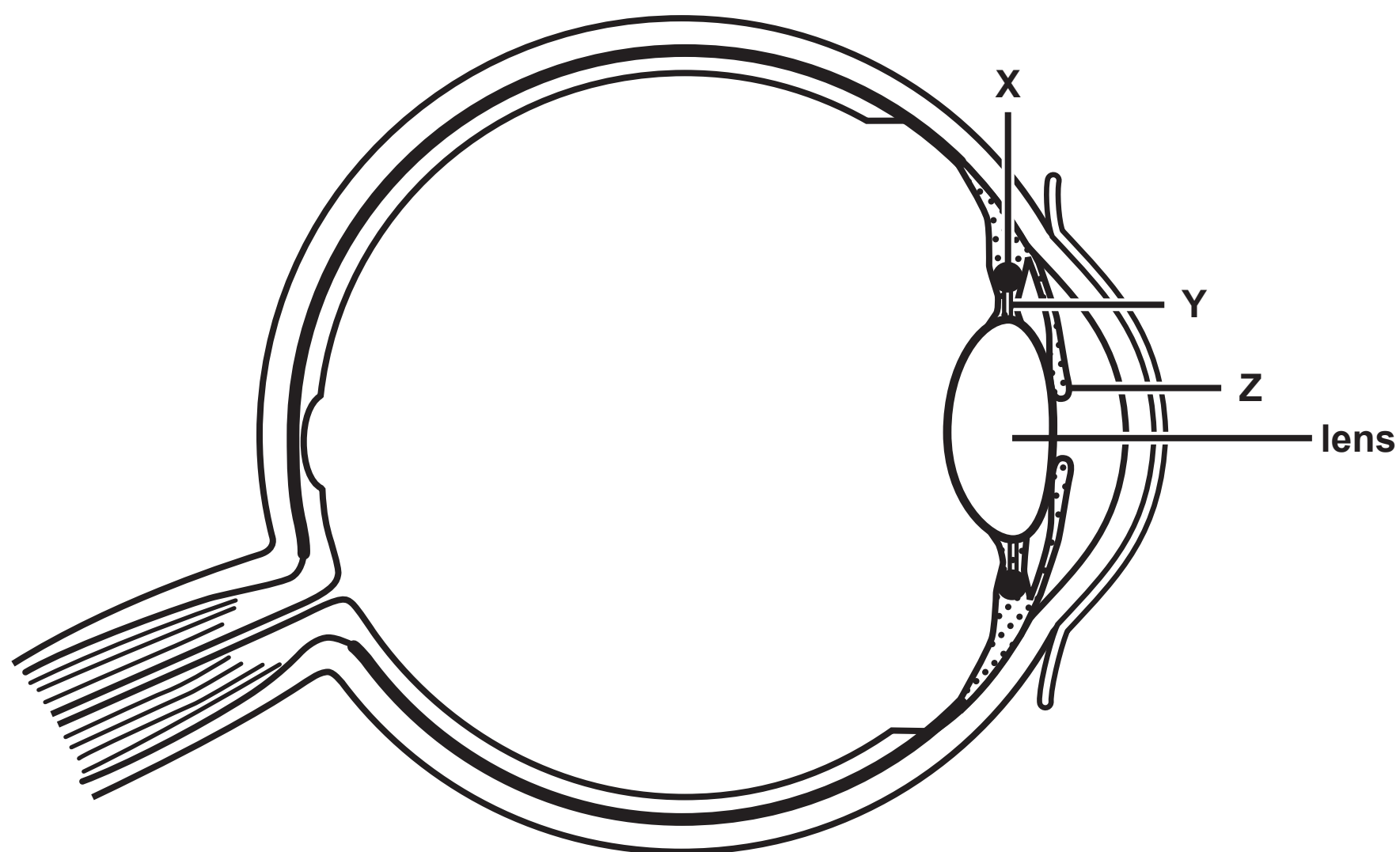
Question 9(b)

The black and white photograph shows a thin plant in a crop field. It has larger leaves towards the base of the stem, becoming smaller towards the top where there are small wheat-like flowers growing vertically.

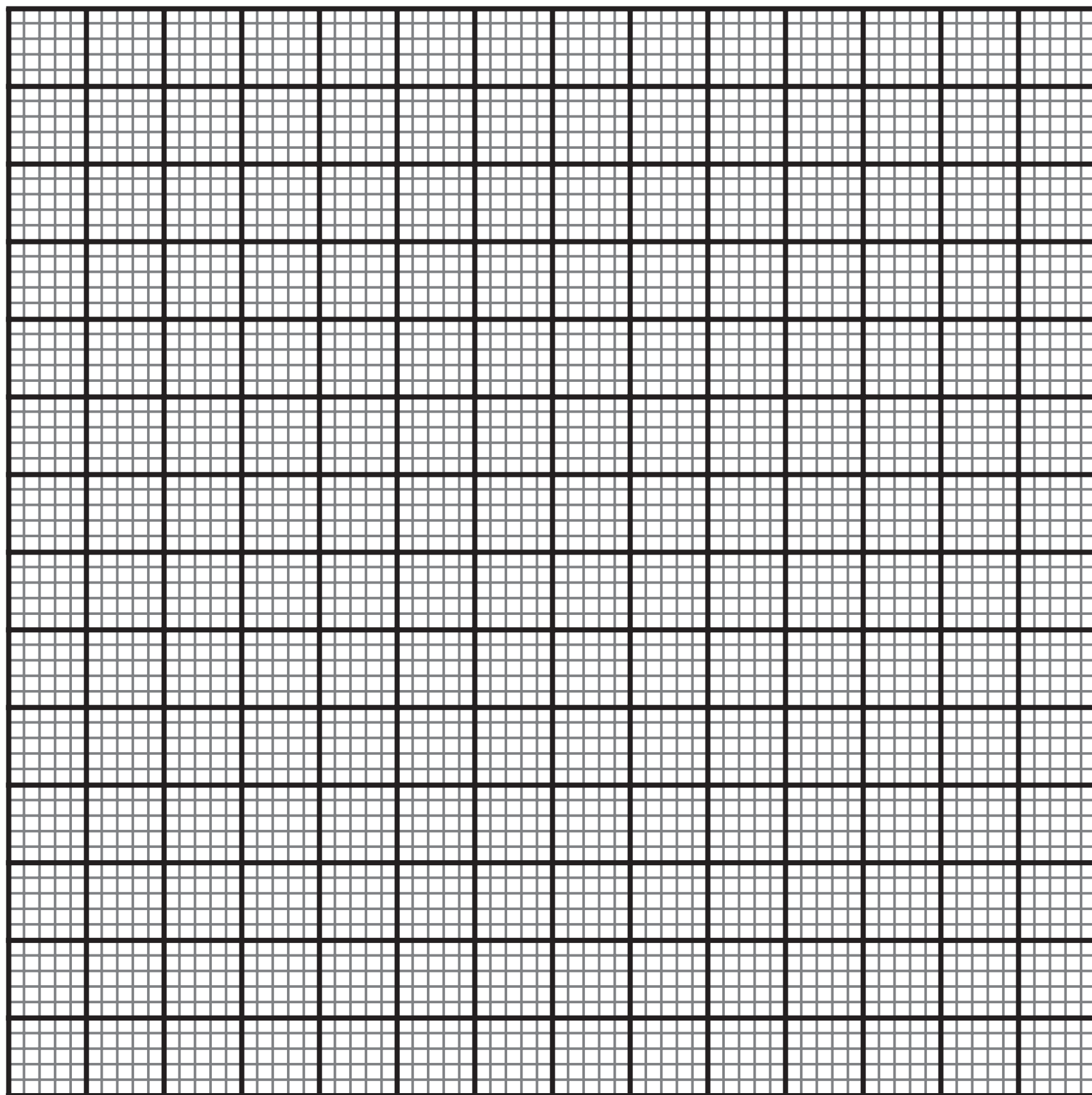
Palmer amaranth



Question 10(a)



Mean daily hours of exposure to sunlight	Number of people in group	Number of people who develop cataracts
7	100	2
8	270	5
9	350	7
10	580	9
11	440	14
12	540	35

Question 5(b)(ii) – grid

Question 6(b)(ii)

DIAGRAM 1

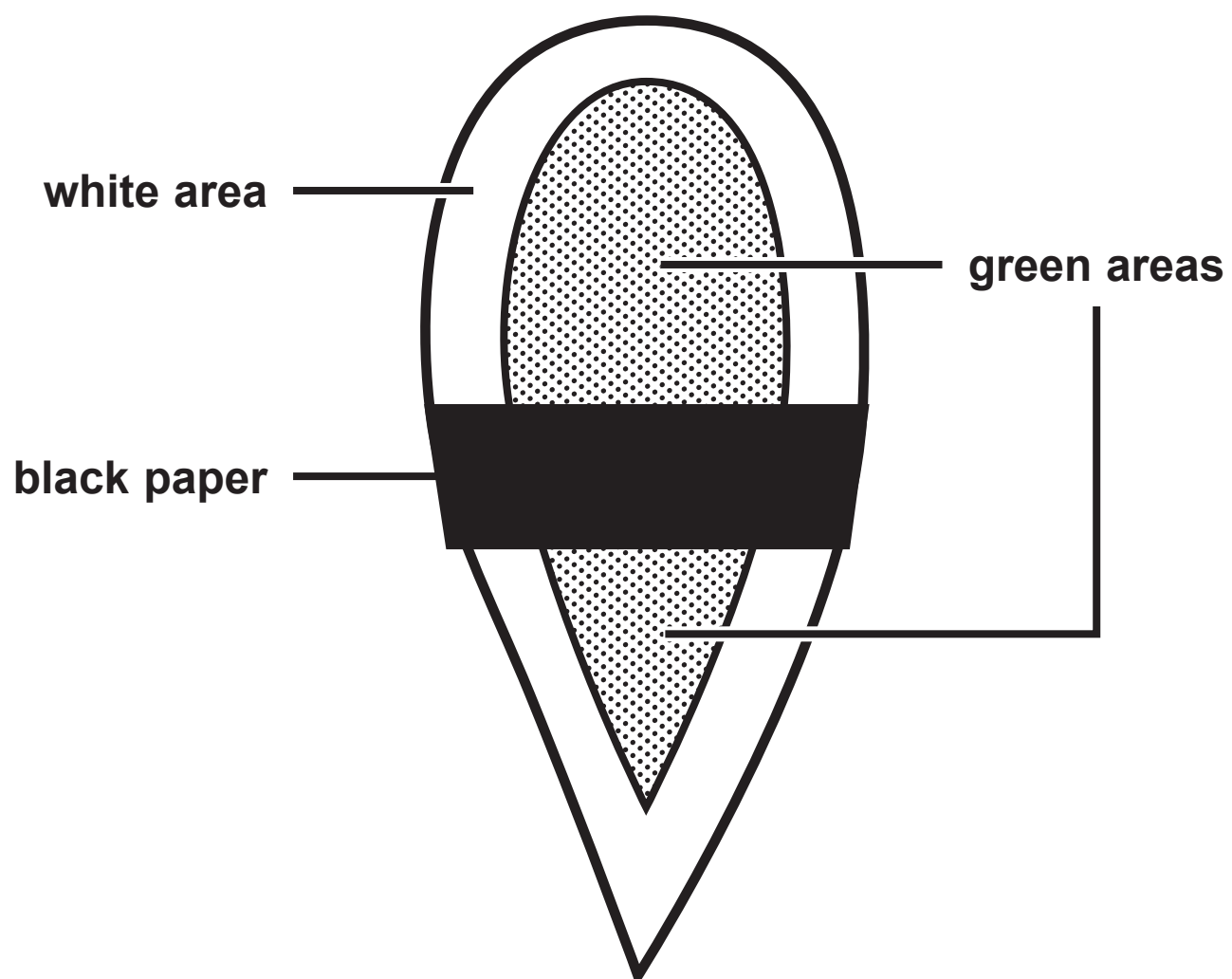
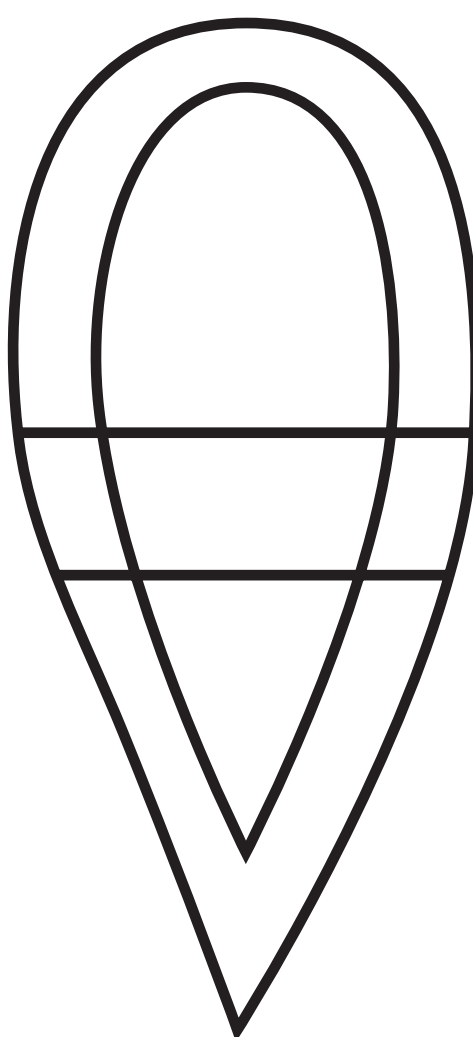


DIAGRAM 2



Acknowledgements

Question 2

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Question 9(b)

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