

Paper Reference(s) 9BN0/02

Pearson Edexcel Level 3 GCE

Biology A (Salters Nuffield)

Advanced

PAPER 2: Energy, Exercise and Coordination

Friday 13 June 2025 – Morning

Time: 2 hours

Diagram Booklet

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

Surname					
Other names					
Centre Number					
Candidate Number					

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THE EXAMINATION**

INSTRUCTIONS

**There may be spare copies of
some diagrams.**

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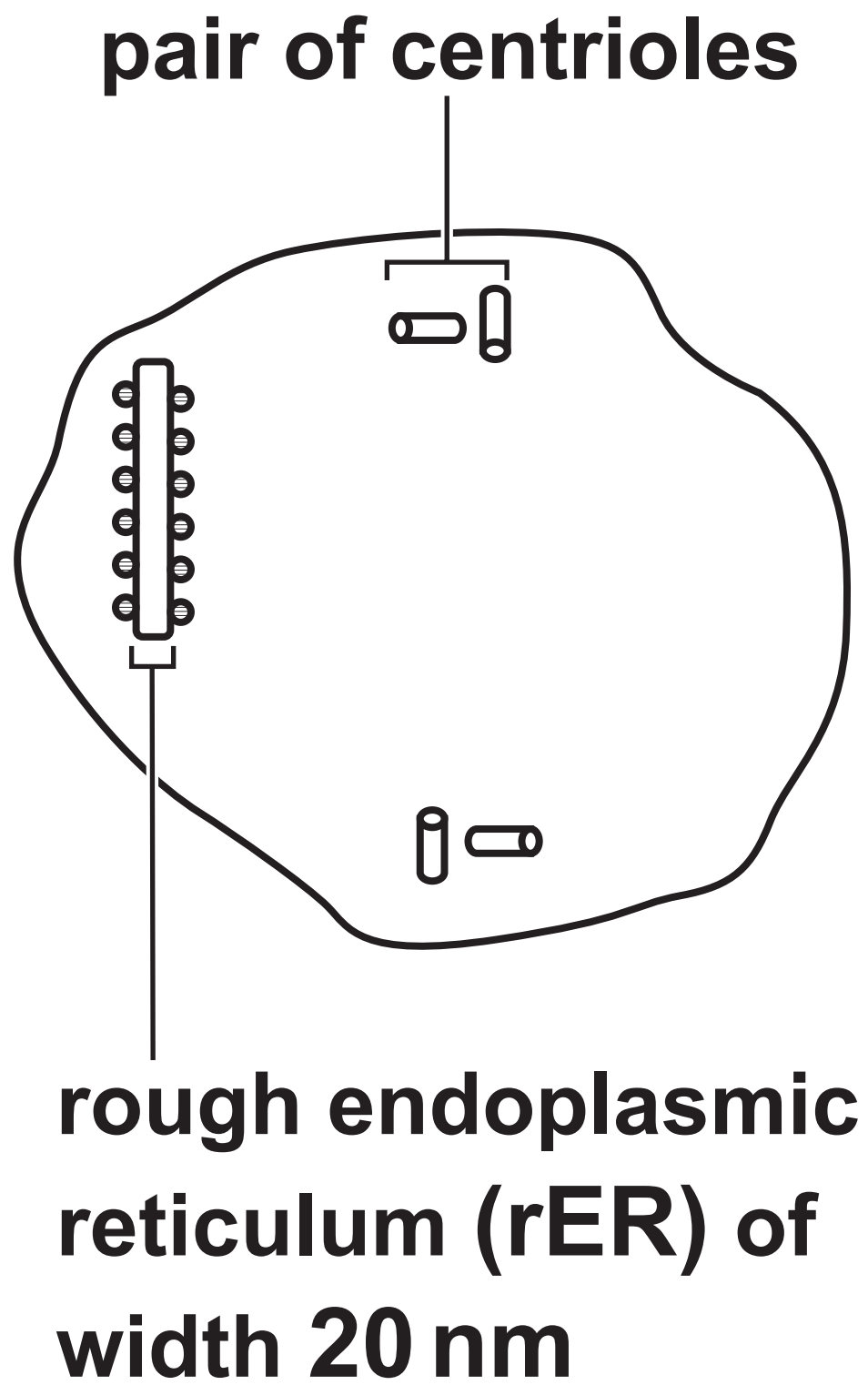
20 Question 10(b) – picture

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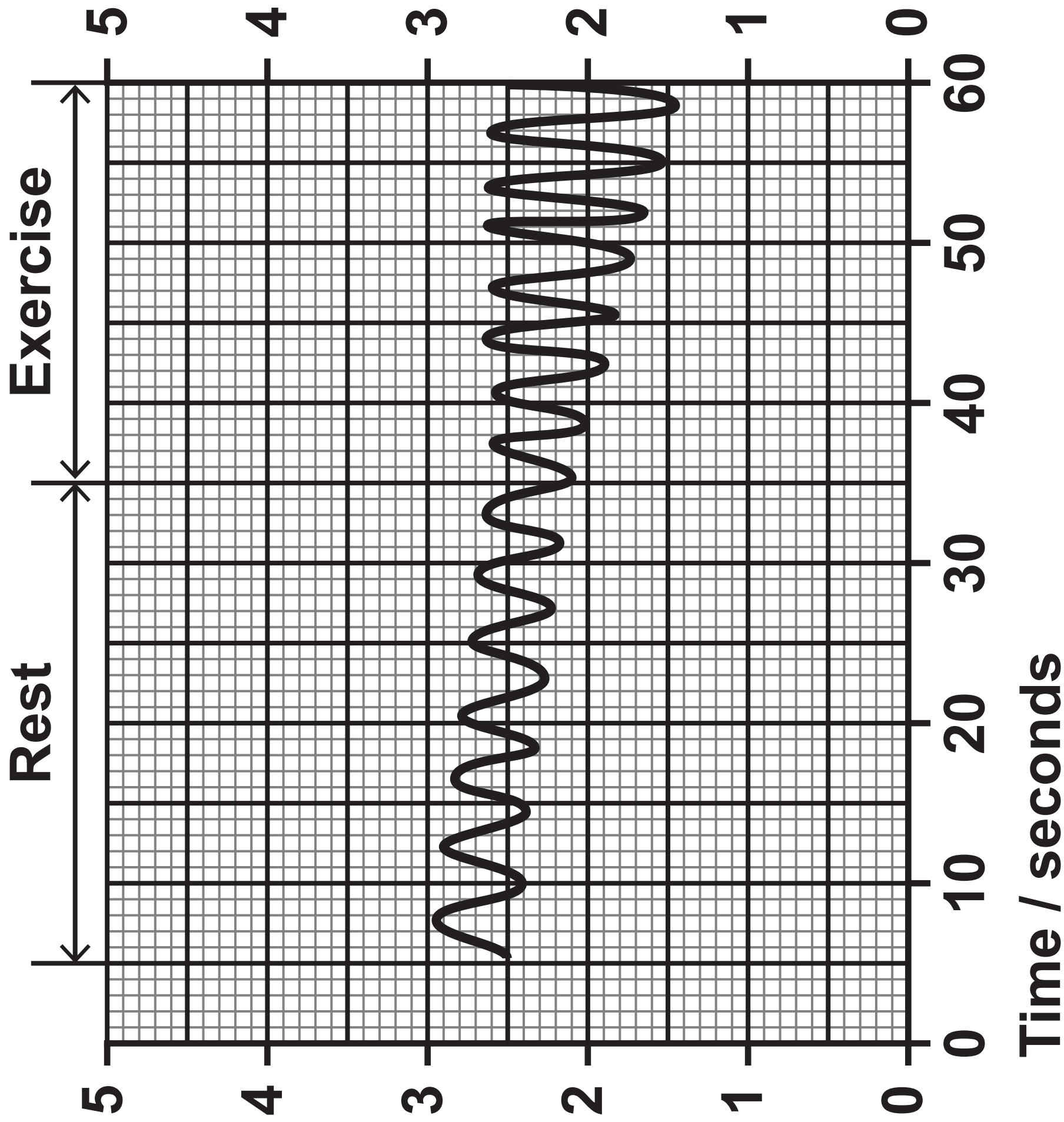
Spare Copies

22 Question 7(a) – spare copy

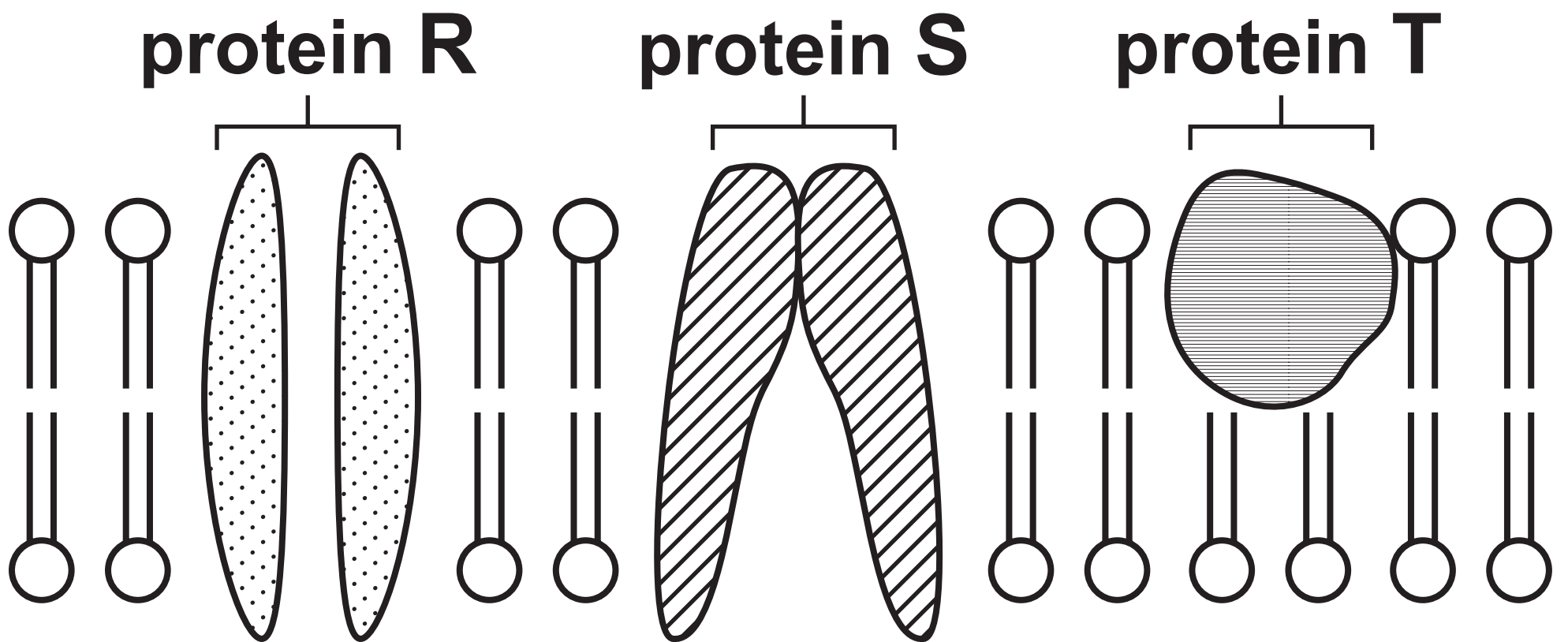
Question 1(a)



Volume of air / dm³

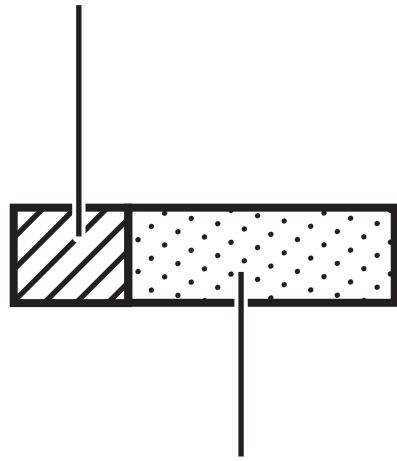


Question 3



Question 3(a)

hydrophilic component



hydrophobic component

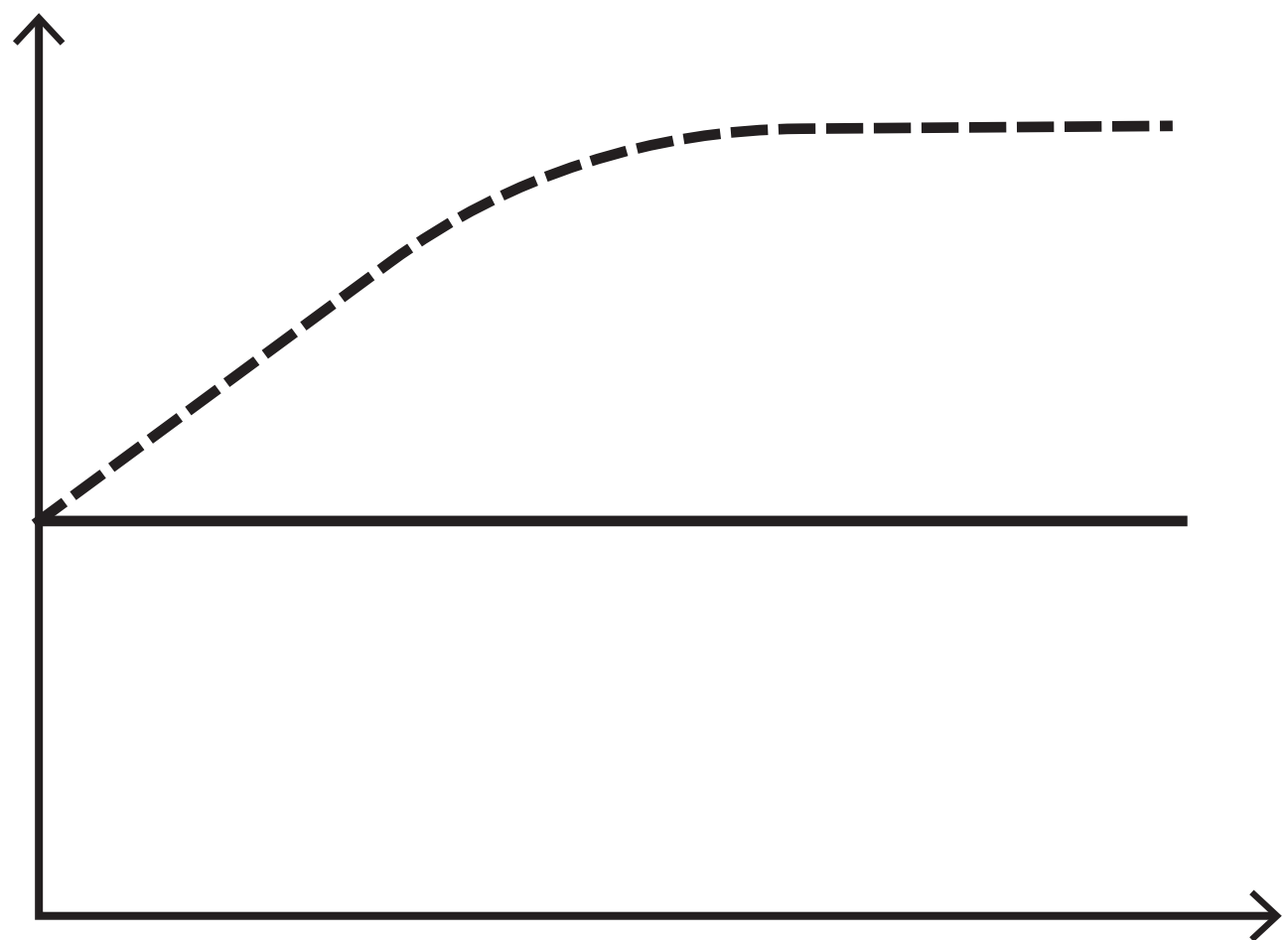
Question 3(b)

KEY

----- ion P

—— ion Q

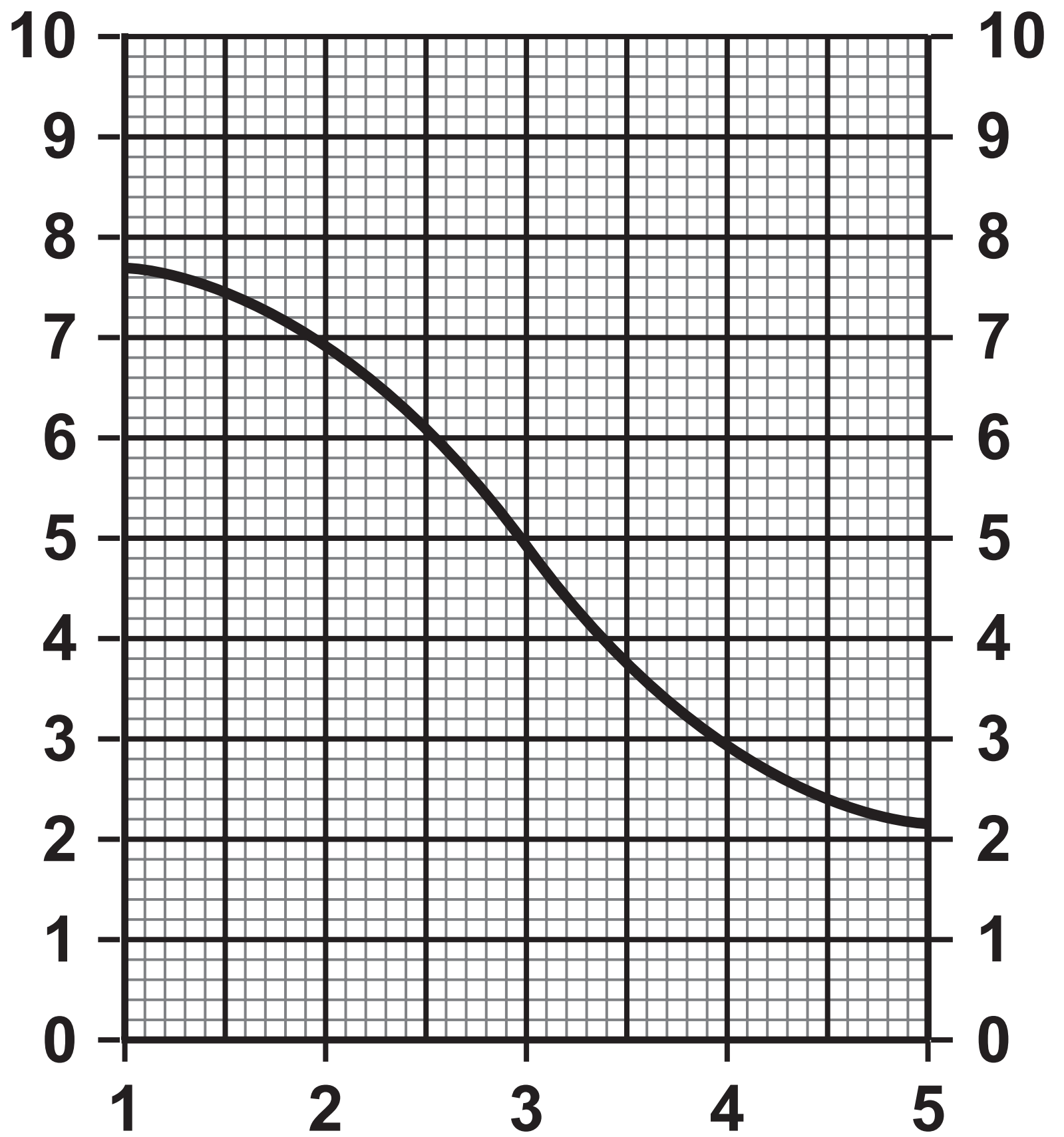
Rate of ion uptake



oxygen concentration

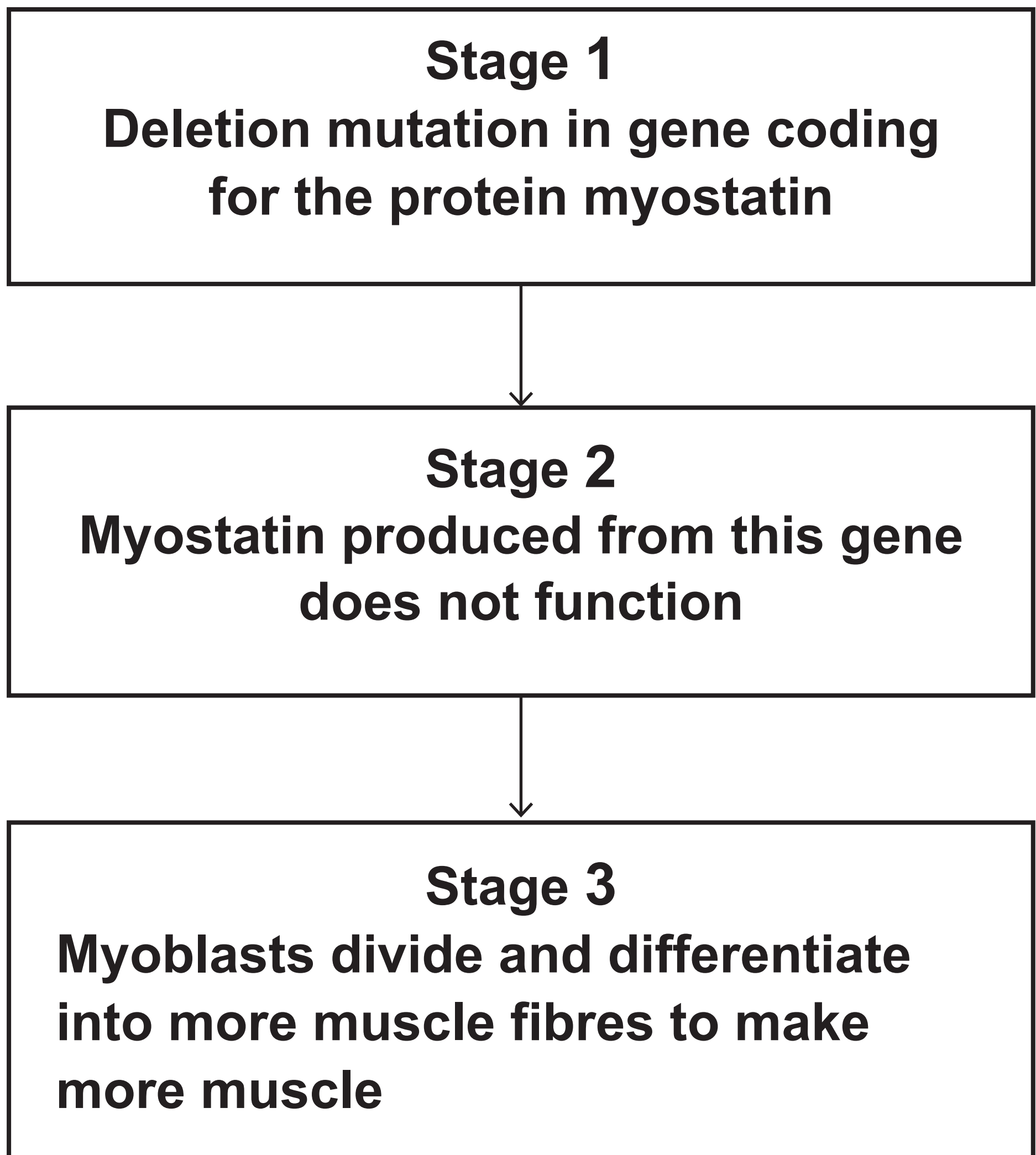
Question 4(c)

Pupil diameter / mm



Light intensity / arbitrary units

Question 5



Question 5(a)

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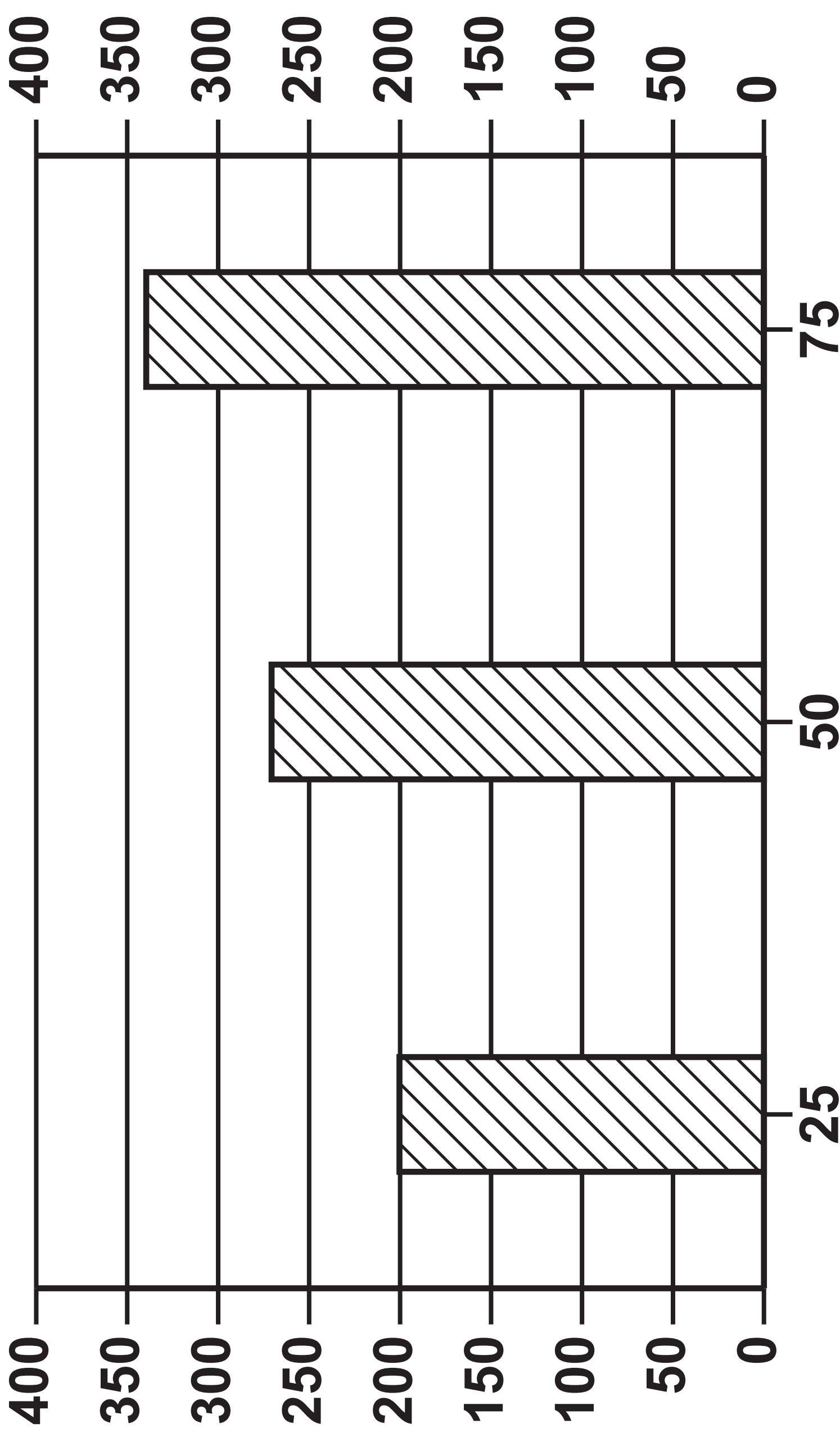
T	G	T	G	A	T	G	A	A	C	A	C	A	C	A	G	A	A
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Question 5(a)(ii)

T	G	T	G	A	T	G	A	A	C	A	C	T	C	C	A	C	A	G	A	A
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Question 6

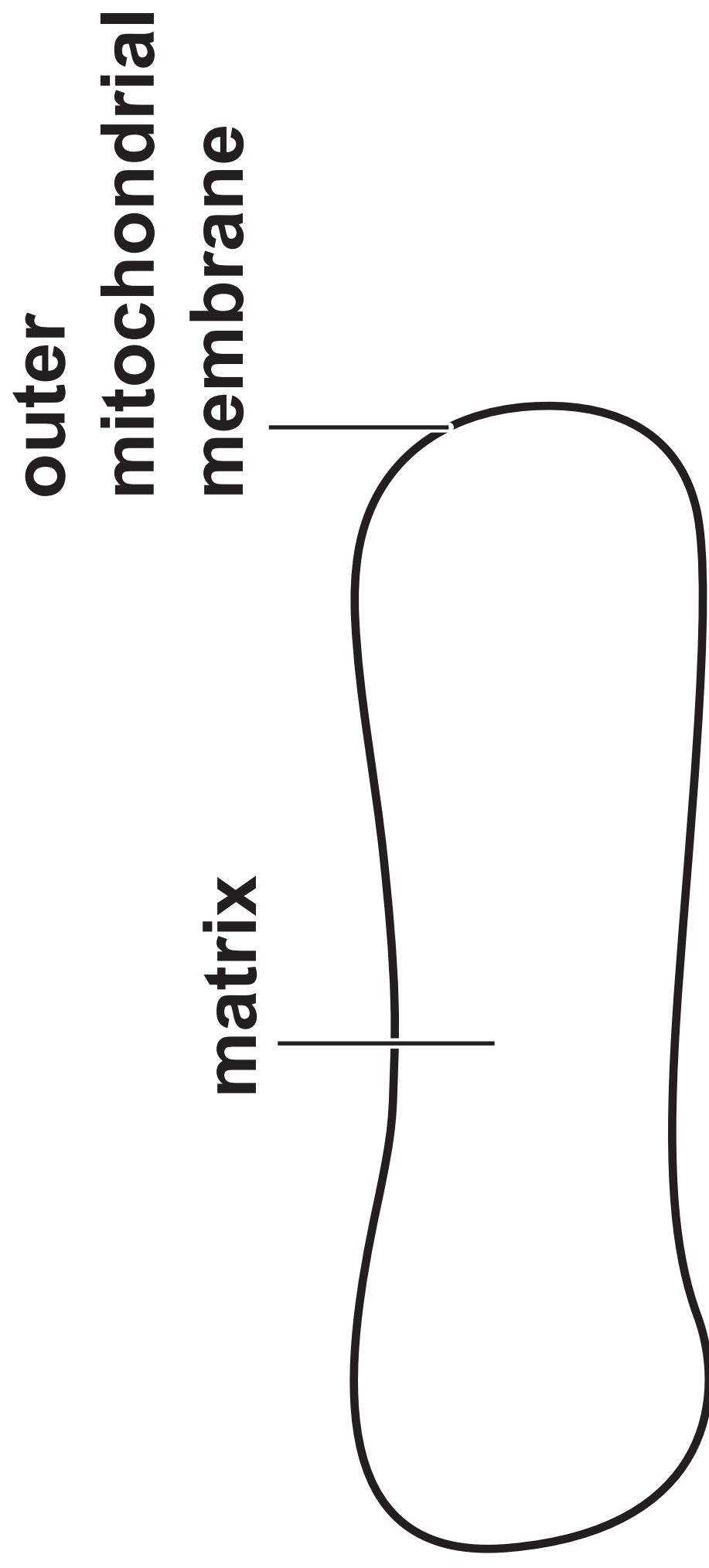
Mean response time / ms



Percentage contraction of flexor muscle
needed to hold down the pedal (%)

Question 7(a)

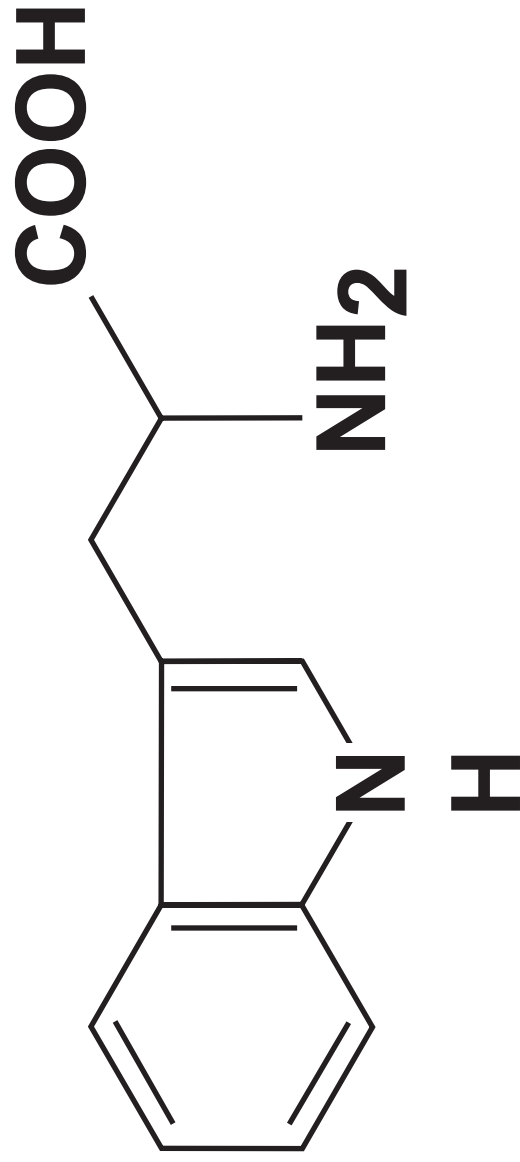
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Question 8(b)

16

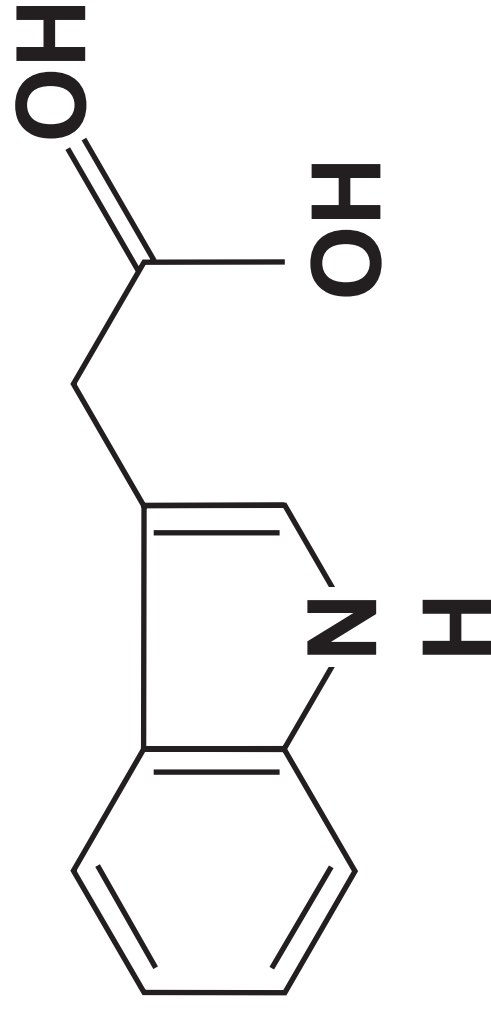
Molecule Q



TAA
—
YUC



Auxin (IAA)



Question 8(b)(ii)

Neighbouring plants absorb sunlight leading to a reduction in the level of active phytochrome in *Arabidopsis* plants



This allows transcription factors to bind to DNA

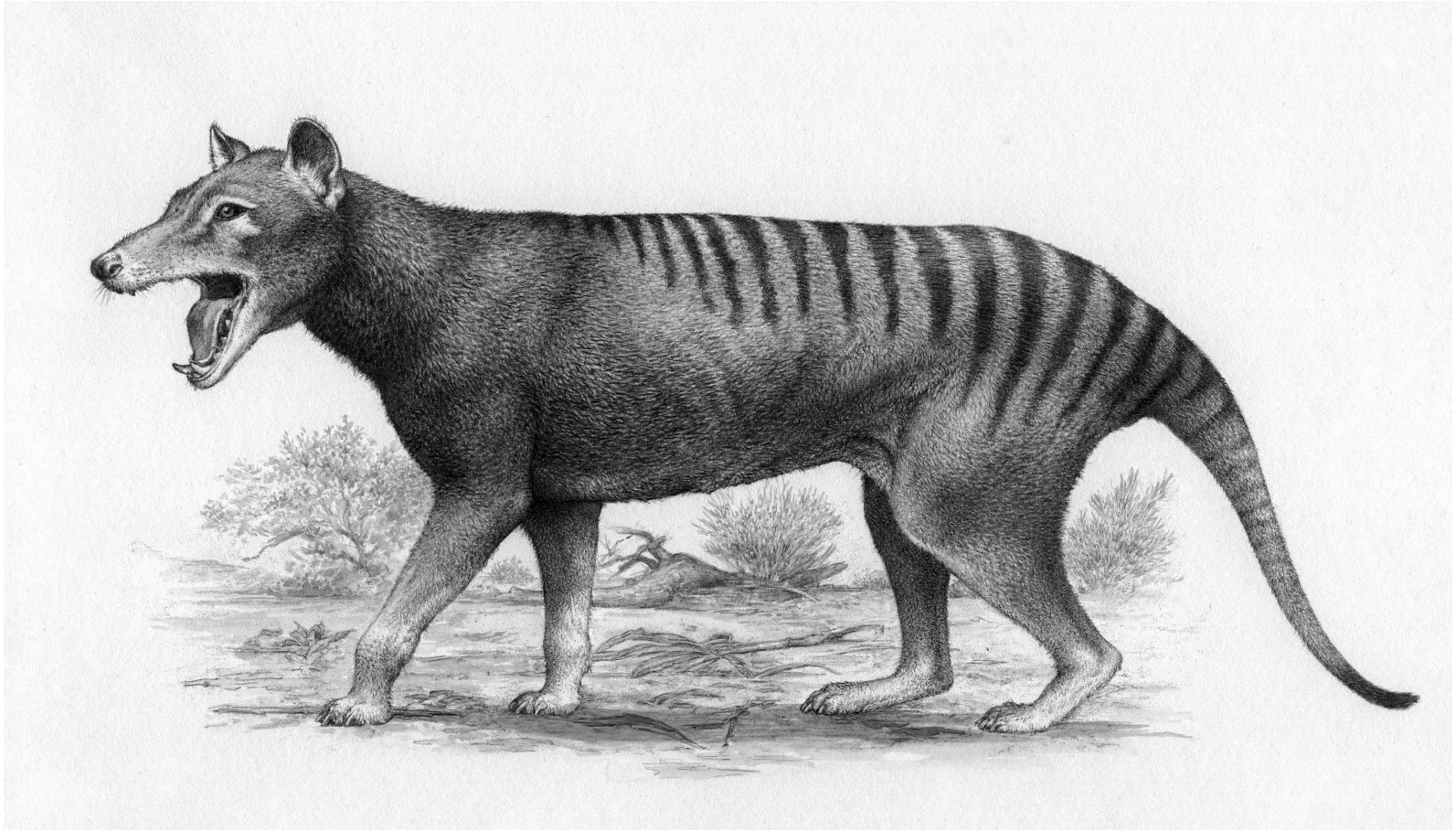


This results in the production of TAA and YUC enzymes

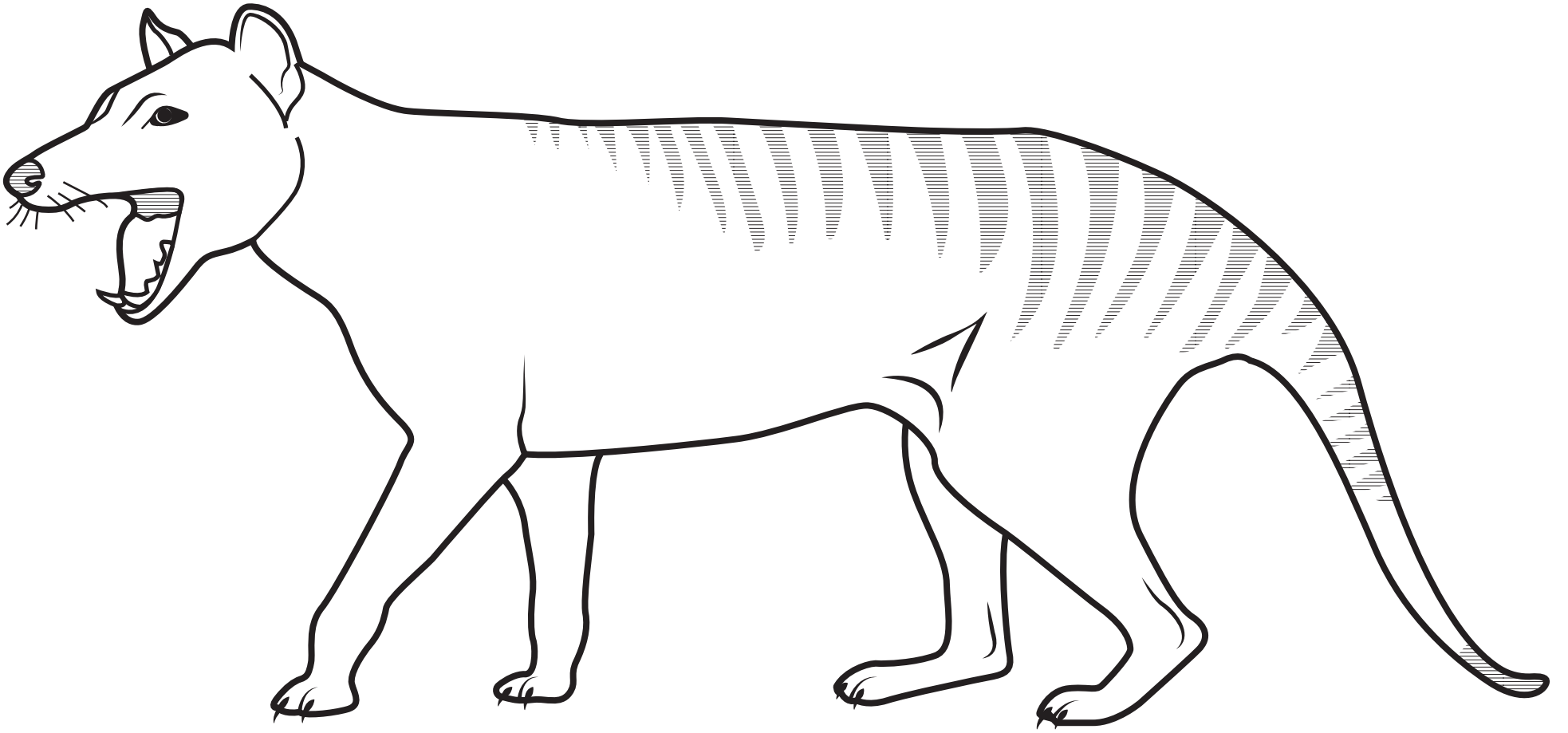


***Arabidopsis* shoots grow taller**

Question 9 – picture



Question 9 – outline



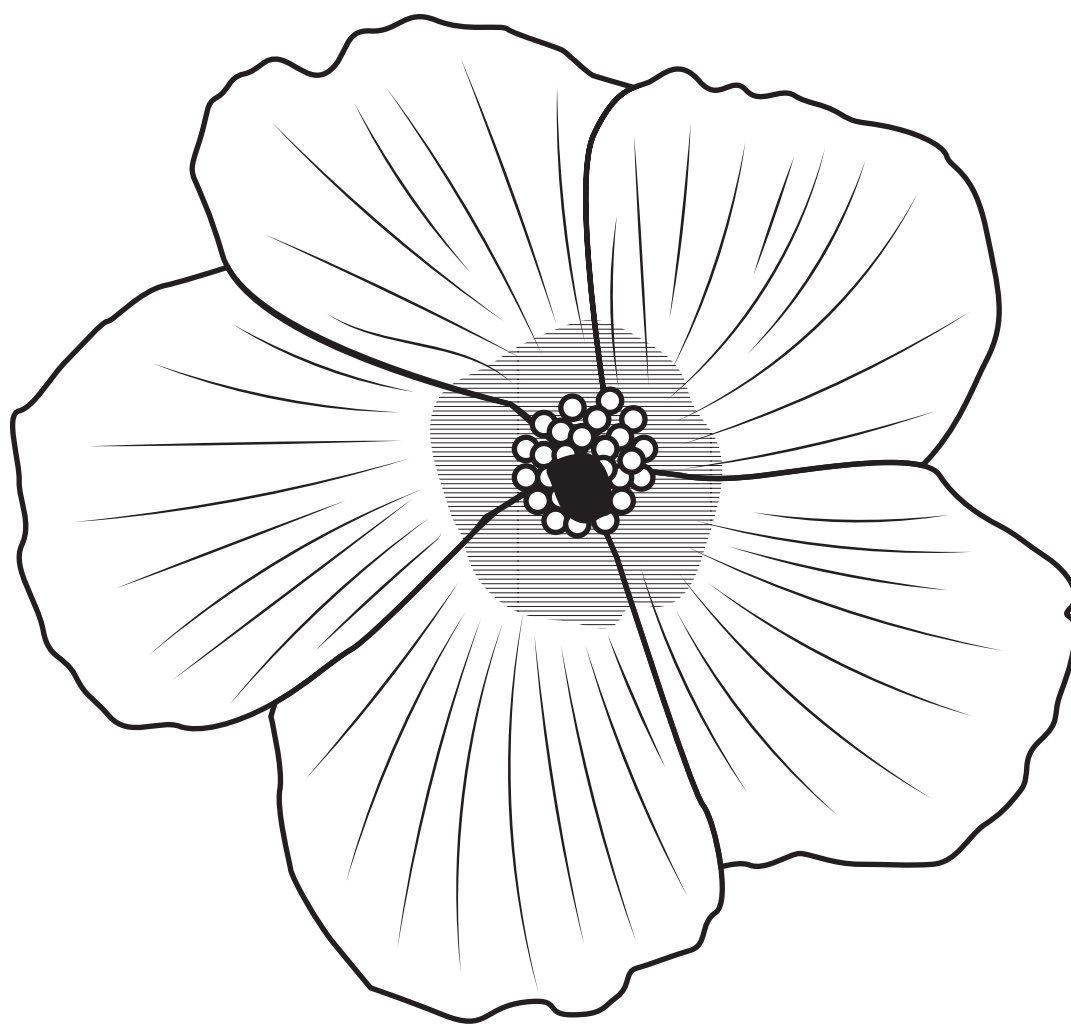
Question 10(b) – picture

Roselle (*Hibiscus sabdariffa*)



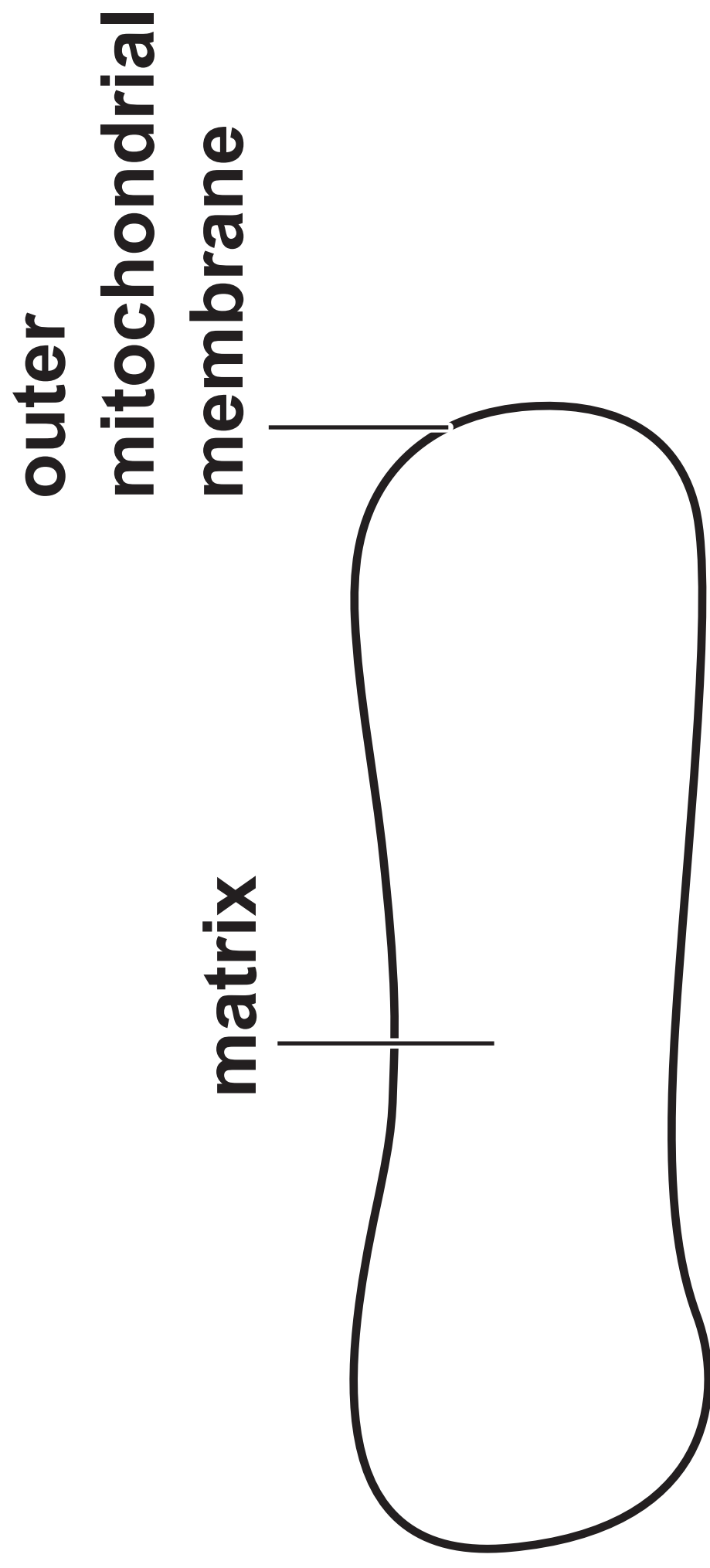
Question 10(b) – outline

Roselle (*Hibiscus sabdariffa*)



Question 7(a) – spare copy

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Source information

Question 9

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Question 10(b)

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