

Read this booklet carefully
before sitting the test.

STAT P

Special Tertiary Admissions Test

Applicant Information Booklet

The Papua New Guinea University of Technology

The University of Goroka

More details about STAT P can be found on the internet at:
<https://statpng.acer.org/>

Australian Council for Educational Research

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Read this entire information booklet carefully.

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About STAT

What is STAT?

The Australian Council for Educational Research (ACER) develops the *Special Tertiary Admissions Test* (STAT) to help universities admit students who are well suited to a broad range of academic programs.

STAT assesses a range of competencies considered important for successful tertiary study, evaluating skills such as critical thinking, and understanding and analysis of given information. It does not test your knowledge of curriculum or specific academic content.

STAT P

- 2 hour and 10 minute test
- 70 multiple-choice questions, half Verbal (Critical) Reasoning, half Quantitative Reasoning
- Presented in Units
- All the information required to answer questions is contained in each Unit.

Skills Tested

Verbal/Critical Reasoning

The focus is on interpretation and understanding of ideas in language. Questions may require you to:

- identify the main idea in a passage
- interpret specific words and phrases
- paraphrase what is stated
- infer suggestions and deduce meanings

Some Units test comprehension of demanding and complex language with emphasis on analysing and understanding the information provided.

Other Units test understanding and processing of ideas presented with emphasis on manipulating information and solving problems.

Quantitative Reasoning

The aim is to test your comprehension and application of information presented in scientific and mathematical contexts.

Units may present information in numeric, symbolic, spatial or graphical form.

Questions do not require an in-depth knowledge of the material provided. The focus is on your ability to interpret and apply information, and to use the information provided for decision making and problem solving.

Communicating with Applicants

It is essential for applicants to have an active and valid E-mail address.

This is the main way the STAT Office communicates important information and reminders to applicants.

Caution: E-mail addresses never work unless they are 100% free of spelling errors.

Terms and Conditions of sitting STAT

Booking to sit STAT constitutes your acceptance of and an agreement to abide by the conditions in this booklet. These include the test administration and rules, reporting of scores, collection and use of personal information and the use of information for research. Test results may be used by approved authorities for purposes of research into the STAT program. Test data is treated with the utmost confidentiality.

Preparing for STAT P

The practice questions included in this **Information Booklet** are similar to questions in the real test.

Answer Sheet

You will record your answers on a special STAT P Answer Sheet (sample p. 6). This allows your answers to be scanned and scored by machine. On the *Answer Sheet* you will find a list of question numbers (Questions 1 to 70) and next to each question the letters A B C D with a small circle around each letter.

Mark your answer by completely filling in the circle containing your answer **with pencil**. If you choose option A as the answer to Question 14, record your answer like this:

14 A B C D

It is important to mark your answers carefully.

If you decide to change an answer, erase your mark completely and fill in the circle containing your new answer.

When answering STAT P questions on your *Answer Sheet*:

- you must only use lead **pencil**
- mark your answer clearly
- use a good quality eraser
- do not make marks outside the designated areas.



STAT P questions may be quite difficult. They are designed to measure a wide range of intellectual ability.

Extra tips

- Your answers must be marked directly onto your *Answer Sheet*, **not** in your *Test Booklet*.
- Do rough work in your *Test Booklet*. Extra paper is not allowed.
- Attempt as many questions as possible for best chance of maximising your score. Record an answer for all questions.
- No marks are deducted for a wrong answer (there is no negative scoring).
- Do not mark more than one answer to a question.

Use the practice questions in this booklet to practise your exam technique. Practise recording your answers on the *Answer Sheet*. Try to attempt all questions before checking your answers. Other good preparation is to read widely and think critically about what you read.

Test taking strategy

- Don't spend too much time on any one question.
- Read the background information for a unit before starting the questions.
- Read through all the answer options, even if you think the first one is correct, before marking your choice.
- See if there are any options you can discard immediately because they are obviously wrong.
- If you think you know the answer to a question, mark it, even if you are not certain. Go on to the next question and come back later if you have time.

Test Centre Procedures & Rules

Checklist for the Test Day

You must take these items to the test:

- Photo Identification (no photocopies)
- 2 Pencils and an eraser

Time at Test Centre

Expect to be at the test venue **around 3 hrs (or longer)**. Time is needed to check-in all candidates, for pre-test procedures, instructions, distribution, collection and checking of test materials, and actual test time.

You must remain in the test room for the full 2-hours and 10 minutes assigned for the exam. No applicants will be allowed to leave early.

Admission to the Test

You will not be admitted to the test unless you have made a booking, and a payment.

You will not be admitted to the test unless you are listed on the Attendance Roll and have brought your photo ID.

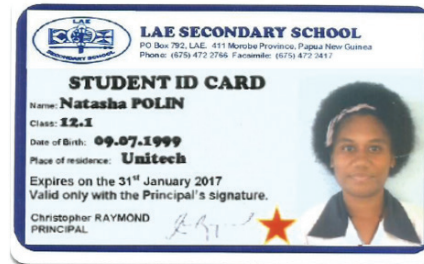
Identification

The name on your identification document must match the name you entered on your test booking and your bank payment. Accepted identification:

- current Secondary Student ID Card
- current Tertiary Student ID Card
- current driver license
- current passport
- current National Identity Document (PNG NID)
- current workplace ID
- other official photo ID card

Your identification document MUST contain:

1. your full name
2. a recent embedded photo
3. your signature or a validity date/date of issue



Prohibited items

The following items are not allowed:

- calculator or dictionary
- mobile phone or other communication devices
- audio or recording devices, or earphones
- books, papers, bags

Water bottles are permitted. No eating or smoking during the test sessions, or in the test room.

Test Day

If you are unwell or if conditions in the test room impact your ability to perform in the test, please tell the Supervisor as soon as possible. You will not be allowed extra time if you leave the room due to illness.

Misconduct

STAT P is a high stakes test; results have the potential to make a major impact on the future study plans of applicants. Security procedures and rules will be strictly enforced at all times.

The following are considered to be breaches of test rules:

- failure to follow a Supervisor's instructions at all times
- attempting to remove any part of a *Test Booklet*, an *Answer Sheet*, or any notes, from the test room is considered theft. (All test materials remain the property of ACER.)
- giving false or misleading information during the test booking process
- attempting to access test questions before the test
- attempting to sit the test on behalf of another person
- allowing another person to sit the test on your behalf
- giving or receiving assistance during the test
- creating a disturbance inside or outside the test room
- using prohibited aids (notes, note paper, dictionary, calculator)

Penalties include cancellation of the applicant's test results and a ban from sitting STAT P, or in the case of theft, criminal charges.

Supervisors will report breaches of the test rules to the STAT Office. Applicants have the right of appeal against the imposed penalty within 10 calendar days of the despatch of the penalty notification.

Test Booklet Directions (example)

DIRECTIONS

- 1 Time allowed: 2 hours and 10 minutes.
- 2 This test has 70 questions.
- 3 You will gain the best possible score if you:
 - (a) Work carefully through the questions in order.
 - (b) Don't waste too much time on any one question; if necessary, go on to the next question and come back to the difficult ones later.
 - (c) If you think you know an answer, mark it – even if you are not certain you are correct. Marks will **not** be deducted for wrong answers.
 - (d) Mark the letter you have chosen correctly on your *Answer Sheet*.
- 4 Each question has four alternative answers, represented by the letters **A B C D**. You must choose **one** answer from the alternatives.

Example:

The total number of questions in this test is

A 70 .

C 35 .

B 50 .

D 32 .

The correct answer is 70. The letter **A** represents the answer, so you will colour circle 'A' with your pencil:



- 5 If you want to change your answer rub it out completely. Only **one** circle should be marked for the answer to be counted in your score.
- 6 At the end of the test this *STAT Test Booklet* must be handed in with your *Answer Sheet*. It remains the property of ACER.
- 7 Do NOT start writing on your *Answer Sheet* until the Supervisor tells you to begin.

Filled-in Answer Sheet (example)

STAT P ANSWER SHEET

Special Tertiary Admissions Test

First Name: Natasha

Family Name: Polin



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INSTRUCTIONS



- Use pencil only
- Please **MARK LIKE THIS:**



NOT LIKE THIS:



- Erase any errors

Example:
Please write in boxes provided, then mark circle corresponding to the number in each column.



Fill in this information CAREFULLY:

STAT Identification Number								Test Booklet Number				
1	0	2	9	5	6	8	1	6	0	3	2	
0	●	0	0	0	0	0	0	0	●	0	0	
●	1	1	1	1	1	1	●	1	1	1	1	
2	2	●	2	2	2	2	2	2	2	2	●	
3	3	3	3	3	3	3	3	3	3	●	3	
4	4	4	4	4	4	4	4	4	4	4	4	
5	5	5	5	●	5	5	5	5	5	5	5	
6	6	6	6	6	●	6	6	●	6	6	6	
7	7	7	7	7	7	7	7	7	7	7	7	
8	8	8	8	8	8	●	8	8	8	8	8	
9	9	9	●	9	9	9	9	9	9	9	9	

MARK YOUR ANSWERS HERE

1 (A) (B) (C) (D)	19 (A) (B) (C) (D)	37 (A) (B) (C) (D)	55 (A) (B) (C) (D)
2 (A) (B) (C) (D)	20 (A) (B) (C) (D)	38 (A) (B) (C) (D)	56 (A) (B) (C) (D)
3 (A) (B) (C) (D)	21 (A) (B) (C) (D)	39 (A) (B) (C) (D)	57 (A) (B) (C) (D)
4 (A) (B) (C) (D)	22 (A) (B) (C) (D)	40 (A) (B) (C) (D)	58 (A) (B) (C) (D)
5 (A) (B) (C) (D)	23 (A) (B) (C) (D)	41 (A) (B) (C) (D)	59 (A) (B) (C) (D)
6 (A) (B) (C) (D)	24 (A) (B) (C) (D)	42 (A) (B) (C) (D)	60 (A) (B) (C) (D)
7 (A) (B) (C) (D)	25 (A) (B) (C) (D)	43 (A) (B) (C) (D)	61 (A) (B) (C) (D)
8 (A) (B) (C) (D)	26 (A) (B) (C) (D)	44 (A) (B) (C) (D)	62 (A) (B) (C) (D)
9 (A) (B) (C) (D)	27 (A) (B) (C) (D)	45 (A) (B) (C) (D)	63 (A) (B) (C) (D)
10 (A) (B) (C) (D)	28 (A) (B) (C) (D)	46 (A) (B) (C) (D)	64 (A) (B) (C) (D)
11 (A) (B) (C) (D)	29 (A) (B) (C) (D)	47 (A) (B) (C) (D)	65 (A) (B) (C) (D)
12 (A) (B) (C) (D)	30 (A) (B) (C) (D)	48 (A) (B) (C) (D)	66 (A) (B) (C) (D)
13 (A) (B) (C) (D)	31 (A) (B) (C) (D)	49 (A) (B) (C) (D)	67 (A) (B) (C) (D)
14 (A) (B) (C) (D)	32 (A) (B) (C) (D)	50 (A) (B) (C) (D)	68 (A) (B) (C) (D)
15 (A) (B) (C) (D)	33 (A) (B) (C) (D)	51 (A) (B) (C) (D)	69 (A) (B) (C) (D)
16 (A) (B) (C) (D)	34 (A) (B) (C) (D)	52 (A) (B) (C) (D)	70 (A) (B) (C) (D)
17 (A) (B) (C) (D)	35 (A) (B) (C) (D)	53 (A) (B) (C) (D)	
18 (A) (B) (C) (D)	36 (A) (B) (C) (D)	54 (A) (B) (C) (D)	

Practice Questions

UNIT 1

Question 1

- 1 Which two of statements (i) – (iv) below are most similar to each other in the attitude to equality presented?
- (i) Although men possess unequal powers, they nonetheless deserve equal rights.
 - (ii) Men are made by nature unequal. It is vain, therefore, to treat them as if they were equal.
 - (iii) Kneeling ne'er spoil'd silk stocking; quit thy state;
All equal are within the church's gate.
 - (iv) The wealth of a nation consists more than anything else in the number of superior men it harbours.
- A statements (i) and (iii) C statements (i) and (iv)
B statements (ii) and (iii) D statements (iii) and (iv)

UNIT 2

Question 2

In the grid below, different letters represent different whole numbers less than 20. The numbers to the right and below the grid are row and column totals.

For example, $Q + L + Z + Z = 46$.

Q	L	Z	Z	46
K	K	K	K	28
K	K	Q	Q	32
K	Z	L	Q	40
30	38	X	Y	

- 2 The value of Q is

- A 7. C 11.
B 9. D 13.

UNIT 3

Questions 3 – 6

The following passage describes the experiences of a man who had surgery that gave him vision after a lifetime of blindness.

One man when shown an orange a week after beginning to see, said that it was gold. When asked, 'What shape is it?' he said, 'Let me touch it and I will tell you!' After doing so, he said that it was an orange. Then he looked long at it and said, 'Yes, I can see that it is round.' Shown next a blue square, he said it was blue and round. A triangle he also described as round. When the angles were pointed out to him he said, 'Ah. Yes, I understand now, one can see how they feel.' 5
For many weeks and months after beginning to see, the person can only with great difficulty distinguish between the simplest shapes, such as a triangle and a square. If you ask him how he does it, he may say, 'Of course if I look carefully I see that there are three sharp turns at the edge of one patch of light, and four on the other.' But he may add, 'What do you mean by saying that it would be useful to know this? The difference is only very slight and it takes me a long time to work it out. I can do much better with my fingers.' And if you show him the two shapes the next day he will be unable to say which is a triangle and a square. 10

- 3 One week after beginning to see, the man
- A related shape directly to visual images.
 - B formed visual impressions of shape indirectly.
 - C reduced his dependence on his sense of touch.
 - D was developing a visual appreciation of shape through association with colour.
- 4 The man's mistake about the square (lines 3 and 4) suggests that
- A his eyesight was still impaired.
 - B he could not make full use of visual clues.
 - C the idea of shape was meaningless for him.
 - D colour makes shape perception more difficult.
- 5 The passage suggests that the man refers to the shapes as 'one patch of light' (line 8) because
- A he does not know the names of shapes.
 - B he does not associate visual images with shapes.
 - C he wants to be precise in order to make his reasoning clear.
 - D he wants to choose wording which will convey the difficulty of his task.
- 6 The passage presents shape perception as generally dependent on
- A experience.
 - B eyesight.
 - C inherited skills.
 - D colour perception.

UNIT 4

Questions 7 – 9

When fighting forest fires, a major problem for firefighters is dealing with the heat. Heat enters, leaves or is produced in a firefighter's body by the following processes:

- 1 radiation — heat from the fire and the sun radiate to the firefighter's body
- 2 conduction/convection — body heat is carried away by the surrounding air
- 3 metabolism — heat is produced in the firefighter's body
- 4 evaporation of sweat — heat is removed from the firefighter's body when sweat evaporates from skin and clothing

In a study of heat balance in firefighters, two groups of firefighters built a firebreak — a hard physical task. One group built their firebreak next to a fire. The other group did exactly the same work under the same conditions, except that no fire was burning nearby. The table below gives the average results for the firefighters in the two groups.

Process	Amount of heat gained or lost per minute by the body	
	fire nearby	no fire nearby
Radiation	gain of 260 joule	gain of 51 joule
Conduction / convection	loss of 60 joule	loss of 80 joule
Metabolism	gain of 488 joule	gain of 561 joule
Evaporation of sweat	loss of 688 joule	?

- Assume that the figures above apply to any individual firefighter.
- Although some of the processes above can transfer heat to or from a firefighter, this unit and the table refer to net gains or losses of heat by each process.

- 7 When fighting forest fires, the body of a firefighter
- A loses heat by radiation and gains heat by conduction/convection.
 - B loses heat by both radiation and by conduction/convection.
 - C gains heat by radiation and loses heat by conduction/convection.
 - D gains heat by both radiation and by conduction/convection.
- 8 The heat lost by evaporation of sweat from the body of a firefighter in one minute while building a firebreak without a fire nearby is
- A 532 joule.
 - B 590 joule.
 - C 612 joule.
 - D 688 joule.
- 9 Which one of the following increases when a firefighter moves from an area where there is no fire nearby to an area where there is a fire nearby?
- A the amount of heat produced per minute by metabolism
 - B the amount of heat lost per minute by conduction/convection
 - C the amount of heat lost per minute by the evaporation of sweat
 - D none of A or B or C

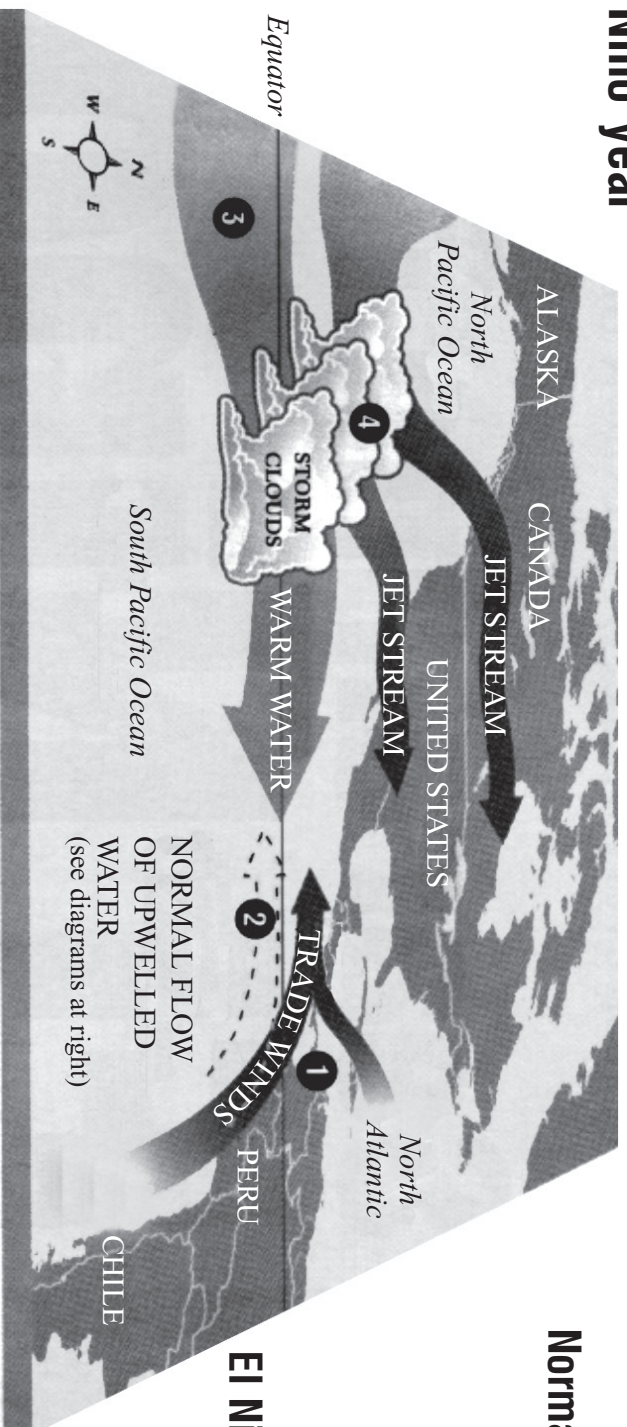
UNIT 5

Questions 10 – 14

This unit is based on the diagram on the opposite page.

- 10** The El Niño phenomenon is first indicated by variations in
- A water currents.
 - B storm clouds.
 - C jet streams.
 - D winds.
- 11** The cross-section diagrams to the right of the main map draw attention to the effects of
- A cold water in creating rough seas and rain-bearing storm clouds.
 - B unnatural increases in water volume on overall sea levels.
 - C global warming on the average temperature of the ocean.
 - D warm water fluctuations on weather and the food chain.
- 12** In an El Niño year, absence of warm water is likely to cause Indonesia to experience
- A storms.
 - B reduced rainfall.
 - C cold wind blasts.
 - D stronger jet streams.
- 13** One effect of El Niño in 1982 was to destroy the anchovy fishing industry in Peru. According to the information given in the diagrams and text, the most likely reason for this was that
- A stronger trade winds off the coast of Peru made fishing hazardous.
 - B the fish were driven away by cold water welling up from below.
 - C jet streams redirected to the south caused havoc.
 - D the fish were deprived of food.
- 14** In an El Niño year floods are caused in desert regions of South America because
- A the southerly jet stream from Indonesia has caused more wetness and cold.
 - B deep cold water has risen abnormally to flood proportions.
 - C large areas of warm water have settled along the coast.
 - D overall sea levels have dropped due to trade winds.

El Niño year



1

Normal year: The trade winds blow from east to west, pulling warm water behind.

El Niño year: The trade winds slacken, for largely mysterious reasons.

2

Normal year: Cold, nutrient-rich water wells up from below, supporting the Pacific food chain.

El Niño year: Stationary warm water prevents upwelling. Fish stocks fall.

3

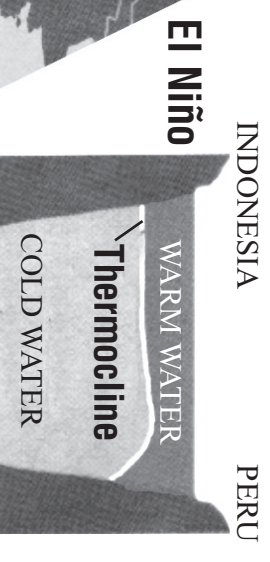
Normal year: A pool of warm water sits off Indonesia, bringing rains to the region.

El Niño year: The warm water sloshes east, taking the storm clouds with it.

4

Normal year: The jet streams deliver rain to southern Mexico and the Pacific Northwest.

El Niño year: The jet streams shift north, and so do the rains.



UNIT 6

Questions 15 – 18

At Runalong Fire Station there are seven firefighters (1, 2, 3, 4, 5, 6, 7). It is necessary to have three firefighters at the station each night in case of emergency, and the Firefighters' Union requires that each firefighter works the same number of nights.

Schedules I–IV were prepared for consideration.

	I	II	III	IV
Sunday	{1,2,4}	{1,2,4}	{1,2,4}	{1,2,4}
Monday	{2,3,5}	{2,3,5}	{2,3,5}	{2,3,5}
Tuesday	{3,4,6}	{3,4,6}	{3,4,6}	{3,4,6}
Wednesday	{4,5,7}	{4,5,7}	{1,2,4}	{4,5,7}
Thursday	{1,2,4}	{5,6,1}	{5,6,1}	{5,6,1}
Friday	{2,3,5}	{6,7,2}	{6,7,2}	{7,1,2}
Saturday	{3,4,6}	{7,1,3}	{7,1,3}	{6,1,3}

15 Which one of the schedules meets the requirements of the Firefighters' Union?

- | | |
|------|-------|
| A I | C III |
| B II | D IV |

Questions 16 – 18 refer to the following additional information:

A schedule can be thought of as a set of v objects (in this case, firefighters) that have to be arranged into b sets (in this case, one set for each day of the week) all of size k and such that each object occurs the same number of times (r) in the schedule and only once in any set. For the firefighters' schedules, $v = 7$, $b = 7$, $k = 3$, and $r = 3$.

16 If $v = 3$, $b = 6$, $k = 1$, $r = 2$, which one of the following completes the schedule $\{1\}, \{2\}, \{3\}, \{1\}, \{2\}, \dots$?

- | | |
|-----------|---------------------------|
| A $\{1\}$ | C $\{3\}$ |
| B $\{2\}$ | D neither A, nor B, nor C |

17 The schedule $\{1,2\}, \{2,3\}, \{x,y\}$ is a schedule for which $v = 3$, $b = 3$, $k = 2$, $r = 2$, if

- | | |
|--------------------|--------------------|
| A $x = 1, y = 2$. | C $x = 2, y = 2$. |
| B $x = 1, y = 3$. | D $x = 2, y = 3$. |

18 The schedule

{1,2,3}	{4,5,6}	{7,8,9}	{1,4,7}
{2,5,8}	{3,6,9}	{1,5,9}	{2,6,7}
{3,4,8}	{1,6,8}	{2,4,9}	{x,y,z}

is a schedule for which $v = 9$, $b = 12$, $k = 3$, $r = 4$, if

- | | |
|---------------------------|---------------------------|
| A $x = 1, y = 2, z = 4$. | C $x = 2, y = 4, z = 6$. |
| B $x = 1, y = 3, z = 5$. | D $x = 3, y = 5, z = 7$. |

UNIT 7

Question 19

The poem in this unit is on the subject of war.

Grass

Pile the bodies high at Austerlitz and Waterloo
Shovel them under and let me work —

I am the grass; I cover all.

And pile them high at Gettysburg
And pile them high at Ypres and Verdun
Shovel them under and let me work.

5

Two years, ten years, and passengers ask the driver:
What place is this?
Where are we now?

I am the grass.
Let me work.

10

Carl Sandburg

Note: The place names mentioned in the poem were sites of battles involving a great loss of life.

19 Which one of the following best describes the tone of the poem?

- A** sympathetic, with a note of nostalgia
- B** bitter, with a note of derision
- C** compassionate, yet irritated
- D** contemptuous, yet humble

UNIT 8

Questions 20 – 24

In some areas of the world, marine birds such as gulls feed on mussels washed up on the beaches. To break open the shells, the birds carry the mussels to heights and drop them onto hard surfaces, such as rocks or wet beach sand.

Experimental evidence indicates that the minimum drop height required to fracture a mussel shell depends on its size, and also on the nature of the surface onto which it is dropped. The speed on impact with the ground can be related to the mussel's drop height and its shell length.

The graphs in Figures 1 to 4 show the relationships between the size, impact speed, and drop height of mussels. The figures are based on the results of extensive mussel dropping experiments that attempted to simulate what the birds do.

Assume that all mussels referred to in the following questions are described by these relationships.

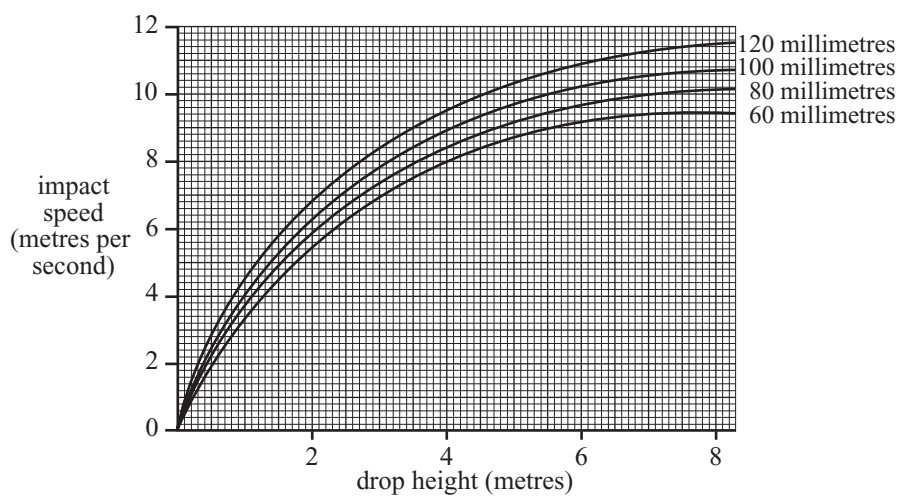


Figure 1

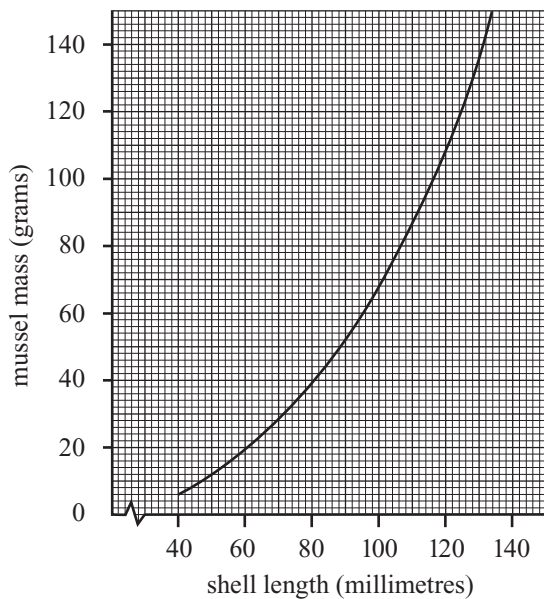


Figure 2

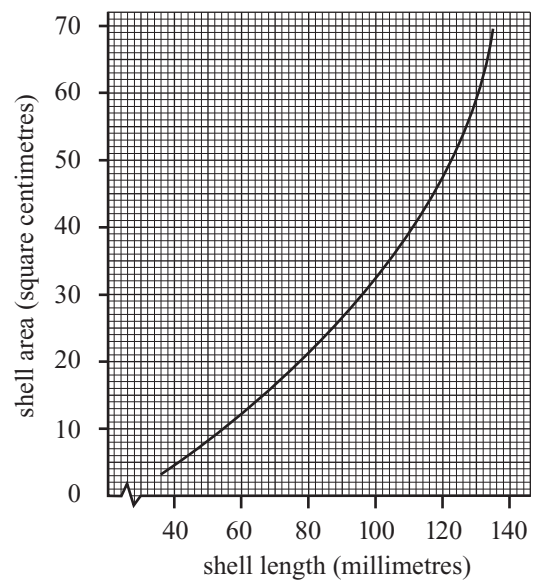


Figure 3

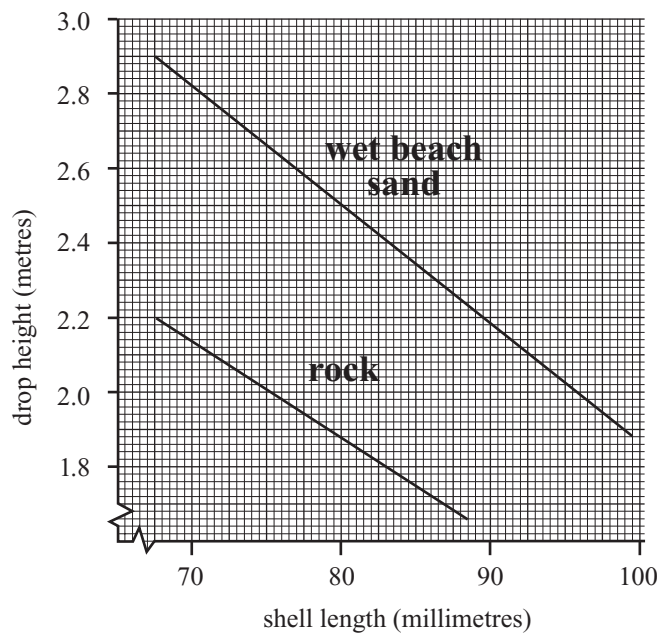


Figure 4

- 20** An 80 gram mussel has a shell area closest to
- | | |
|---------------------------------|---------------------------------|
| A 20 square centimetres. | C 40 square centimetres. |
| B 24 square centimetres. | D 45 square centimetres. |
- 21** Which one of the following is the smallest drop height required to fracture three mussels with lengths 75 millimetres, 85 millimetres, and 100 millimetres, when all three are dropped onto wet beach sand?
- | | |
|----------------------|----------------------|
| A 1.90 metres | C 2.67 metres |
| B 2.35 metres | D 3.00 metres |
- 22** Two mussels are dropped from a height of 2.5 metres onto wet beach sand. Mussel *X* has a mass of 30 grams and mussel *Y* has a mass of 60 grams.
- According to the available evidence,
- | | |
|--|--|
| A only mussel <i>X</i> will fracture. | C both mussels will fracture. |
| B only mussel <i>Y</i> will fracture. | D neither mussel will fracture. |

23 For a group of mussels which all have a shell length of 80 millimetres, the difference between the drop heights required to fracture the mussels when they drop onto rock and wet beach sand is closest to

A 0.6 metres.

C 1.9 metres.

B 1.0 metres.

D 2.5 metres.

24 Which of the following is closest to the lowest impact speed required to fracture a 30 gram mussel by impact with wet beach sand?

A 5.5 metres per second

C 8.4 metres per second

B 6.8 metres per second

D 10 metres per second

Answers

Unit 1: Statements (Verbal Reasoning)

1 A

Unit 2: Grid (Quantitative Reasoning)

2 B

Unit 3: Lifetime of blindness (Verbal Reasoning)

3 B

4 B

5 B

6 A

Unit 4: Firefighters (Quantitative Reasoning)

7 C

8 A

9 C

Unit 5: El Niño (Verbal Reasoning)

10 D

11 D

12 B

13 D

14 C

Unit 6: Runalong Fire Station (Quantitative Reasoning)

15 B

16 C

17 B

18 D

Unit 7: War poem (Verbal Reasoning)

19 B

Unit 8: Mussels (Quantitative Reasoning)

20 C

21 C

22 B

23 A

24 B