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basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY P2

NOVEMBER 2026

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MARKS: 150

TIME: 3 hours

This question paper consists of 13 pages and a SPECIAL ANSWER BOOK of 18 pages.

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INSTRUCTIONS AND INFORMATION

1. This question paper consists of FIVE questions.
2. Answer ALL the questions ONLY in the SPECIAL ANSWER BOOK provided.
3. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.
4. Show ALL calculations clearly.
5. Round off ALL final answers appropriately according to the given context, unless stated otherwise.
6. Indicate units of measurement, where applicable.
7. Maps and diagrams are NOT necessarily drawn to scale, unless stated otherwise.
8. Write neatly and legibly..



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QUESTION 1

1.1 TABLE 1 below contains a list of statements and definitions of concepts and terminology used in Mathematical Literacy.

TABLE 1: STATEMENTS AND DEFINITIONS OF CONCEPTS AND TERMINOLOGY

LETTER	DEFINITIONS
A	Measuring system that includes feet, pounds and pints
B	Diagram using branches to display all outcomes of a series of trials
C	A scale that shows the relationship between the distance on a map and the corresponding actual distance on the ground, expressed as a ratio
D	Shows the design and dimensions of the outside of a building from a side view
E	The boundary that surrounds a circular object
F	Measuring system that uses metres, kilograms and litres for quantity
G	A contingency table representing all possible outcomes of two trials taking place together
H	Scale that consists of a line, often divided into segments, labelled with units
I	Shows the design and dimensions of the inside of a building, from a top view
J	A straight line passing through the centre of a circle and touching the circle at both ends, thus dividing the circle into two equal parts

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Use TABLE 1 above and match an explanation or a definition with EACH of the concepts below. Write only the letter (A–J) next to the question numbers (1.1.1 to 1.1.5), e.g. 1.1.6 K.

1.1.1 Metric system (2)

1.1.2 Elevation plan (2)

1.1.3 Bar scale (2)

1.1.4 Tree diagram (2)

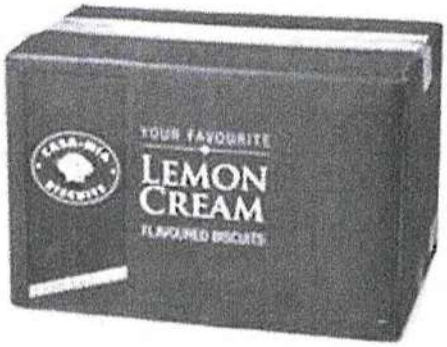
1.1.5 Diameter (2)

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1.2 Two types of biscuit containers with different biscuits are shown below.

CONTAINER A	CONTAINER B
	
• There are 60 biscuits in this container. The total mass of the biscuits in the container = 450 g. • Shelf life: 18 months	• This container holds 12 packs of biscuits. The total mass of the biscuits in the container = 1 800 g. • Shelf life: 365 days

[Adapted from www.makro.co.za]

Use the information above to answer the questions that follow.

1.2.1 Choose the correct answer from those given in brackets.

Container **A** is called a (rectangular/triangular) prism. (2)

1.2.2 Determine, in simplified ratio, the total mass of the biscuits in the form:

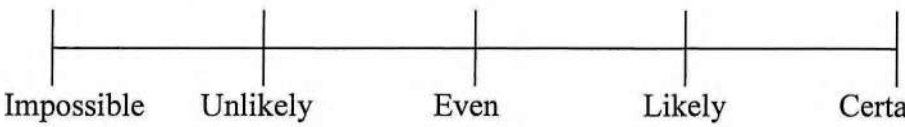
Container A **:** Container B (3)

1.2.3 Calculate, in grams, the mass of ONE biscuit in container **A**. (2)

1.2.4 Convert, rounded to the nearest week, the shelf life of the biscuits in container **B**. (2)

1.2.5 Choose a word on the probability scale below that BEST describes the following probability:

The probability of randomly selecting a cylindrical biscuit container from the above biscuit containers is:



(2)

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1.3 The 2026 FIFA World Cup took place in the USA, Canada and Mexico from 11 June 2026 to 19 July 2026. Shown below is a picture of the FIFA World Cup trophy with some of its dimensions given.

PICTURE OF THE SOCCER WORLD CUP TROPHY WITH DIMENSIONS



Mass: 6,175 kg

Base diameter: 13 cm

TABLE 2 indicates some of the stadiums and starting times where matches were played in the host cities, together with the corresponding times in South Africa.

TABLE 2: STADIUMS WITH STARTING TIMES IN THE HOST CITIES AND THE CORRESPONDING TIMES IN SOUTH AFRICA

HOST STADIUMS	LOCAL TIME	SOUTH AFRICAN TIME
Atlanta	12:00	18:00
BBVA	19:00	03:00
Guadalajara	20:00	04:00
Dallas	15:00	22:00
SoFi	12:00	21:00

[Source: www.dreamstime.com]

Use TABLE 2 and the information above to answer the questions that follow.

1.3.1 Determine the total number of days the tournament was held. (2)

1.3.2 Calculate the radius of the base of the trophy. (2)

1.3.3 Write down the name of the stadium where the game started at 19:00. (2)

1.3.4 Calculate the time difference between Dallas and South Africa. (2)

1.3.5 State whether the match played at the Guadalajara Stadium was played in the morning or evening, South African time. (2)

[31]

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QUESTION 2

2.1 John lives in the Bella Donna Housing Complex. The layout plan on ANNEXURE A in the ANSWER BOOK shows the borders of the houses in his complex.

Use ANNEXURE A to answer the questions that follow.

2.1.1 Name the road used to enter the complex. (2)

2.1.2 Write down the general direction of the park from John's house. (2)

2.1.3 There are houses inside ALL the demarcated borders, except the park and the guard station.

(a) Is the following statement TRUE or FALSE?

The houses have been numbered in a clockwise direction. (2)

(b) Hence, provide the number of the house labelled **A**. (2)

2.1.4 John stated that the simplified ratio of the houses that are bordered by 4 houses, to those bordered by 2 houses, is 1 : 3.

Show, by means of calculation, whether he is CORRECT. (5)

2.1.5 The owner of house number **19** wants to replace the fencing around the border of his house, excluding the entrance to Nita's Crescent.

Use measurements and the given scale to determine, in metres, the actual length of fencing required.

NOTE: Fencing is sold per running metre. (6)

2.2 Lerona travels from Kroonstad to the Bella Donna Complex to visit her friend. She uses the strip map shown on ANNEXURE B in the ANSWER BOOK to reach her destination.

Use ANNEXURE B to answer the questions that follow.

2.2.1 Write down the amount she will pay at the first toll she passes. (2)

2.2.2 Name the place where the N12/N1 interchange is found. (2)

2.2.3 Lerona travels in the opposite direction to the signboard marked N12 E.

Give the compass direction in which she will be traveling now. (2)

2.2.4 Lerona states that she still needs to travel more than 80 km to Oak Avenue after crossing the Vaal River.

Verify, by showing ALL calculations, if her statement is VALID. (4)

[29]

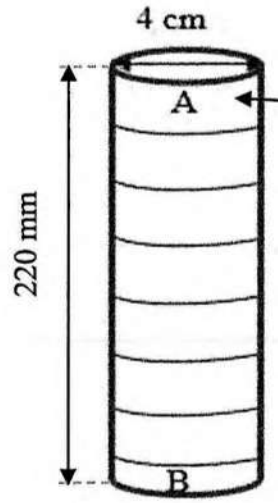
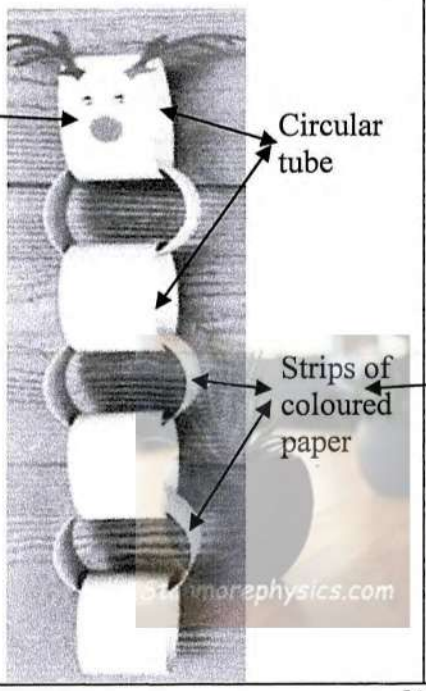
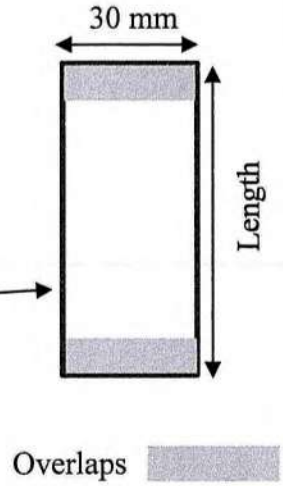
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QUESTION 3

3.1 Mrs Masiloane uses cylindrical cardboard rolls and rectangular strips of coloured paper to make pieces for a hanging decoration, as shown in the picture and diagrams below.

MEASUREMENTS OF CYLINDRICAL CARDBOARD ROLL	PICTURE OF ONE PIECE OF THE COMPLETED DECORATION	MEASUREMENTS OF THE RECTANGULAR STRIP OF COLOURED PAPER
		

[Adapted from www.pinterest.com]

NOTE:

- The circular tubes **A**, with equal heights, are cut from cylindrical cardboard rolls.
- The circles binding them together are strips cut from coloured paper with the ends glued together.
- Circular tube **B** is the unused cut-off piece.
- The strips of coloured paper are glued to form a circle with a circumference of 130 mm, excluding 5 mm overlaps on both ends for the glue.

Use the information above to answer the questions that follow.

3.1.1 The height of the unused part **B** is 10 mm.

Determine the height of a single circular tube, marked **A**, in the diagram. (3)

3.1.2 Calculate, in cm, the perimeter of a rectangular coloured paper strip.

You may use the following formula: **Perimeter = 2(Length + Width)** (5)

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3.1.3 Mrs Masiloane is going to make 68 complete pieces of decorations.

She states that she will need fewer than 40 cardboard rolls to have enough circular tubes to complete ALL the decorations.

Verify, showing ALL calculations, if her statement is VALID. (5)

3.1.4 The strips of coloured paper will be made up of different colours, as shown in the table below.

TABLE 3: NUMBER OF DIFFERENT STRIPS OF COLOURED PAPER

COLOUR	NUMBER OF PAPER STRIPS
Yellow	8
Red	6
Orange	10
Blue	7
White	22

Determine, as a percentage, the probability of randomly choosing a strip of white paper. (4)

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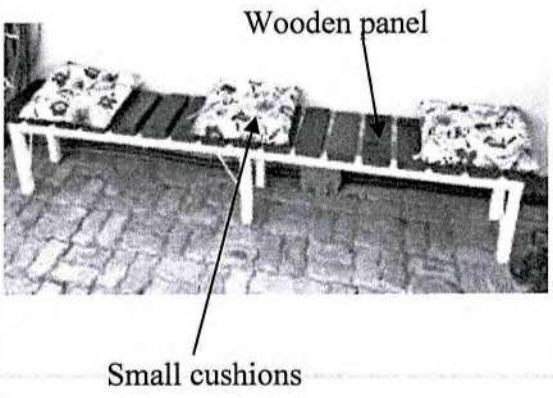
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3.2 Mrs Masiloane's husband, Musa, uses a steel frame and wooden panels to assemble a bench, as shown in the picture and diagrams below.

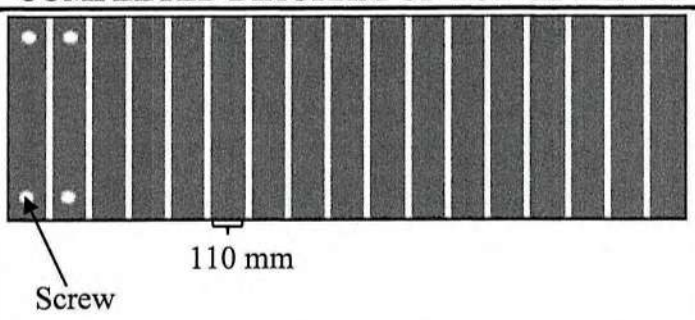
The wooden panels are secured to the steel frame using a single screw on each end of the wooden panel.

Between each wooden panel is a 10 mm space. Each wooden panel is 110 mm wide.

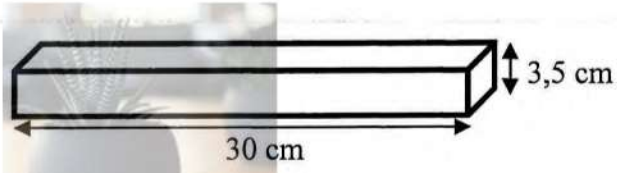
PICTURE OF A BENCH



COMPLETED DIAGRAM OF TOP OF BENCH



3D DIAGRAM OF A SINGLE WOODEN PANEL



[Adapted from www.pinterest.com]

Use the information above to answer the questions that follow.

3.2.1 Determine the total number of screws Musa will need to secure ALL the wooden panels to the steel frame. (2)

3.2.2 Musa replaces the 3 small loose cushions on the top of the bench with a single large cushion which covers ALL the wooden panels exactly without overlapping.

Determine the total length of the single large cushion. (3)

3.2.3 Musa decides to paint each wooden panel with three coats of paint on ALL sides. The spread rate, per coat, of the paint is 11 m^2 per litre.

Musa states that he will need only half a tin of the 500 mℓ paint to complete the painting of ALL the wooden panels.

Verify, with calculations (in cm), whether his statement is VALID.

You may use the following formula:

Total surface area of rectangular prism = $2(\ell \times w) + 2(\ell \times h) + 2(w \times h)$
where ℓ = length, w = width and h = height (9)

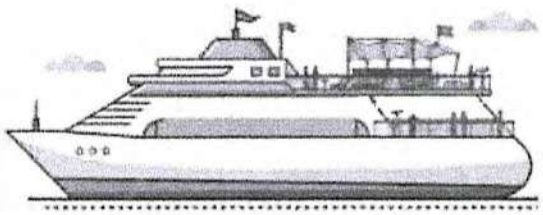
[31]

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QUESTION 4

4.1 ANNEXURE C in the ANSWER BOOK shows a layout plan of a small cruise ship with four decks.

NOTE:	PICTURE OF A SMALL CRUISE SHIP
• A deck on a ship is like a floor in a building; it divides the ship into different levels. • A stateroom is a bedroom designed to look like a hotel room on a ship.	

Use ANNEXURE C and the information above to answer the questions that follow.

4.1.1 Identify the deck on the ship where there is a library. (2)

4.1.2 There are 28 staterooms on the ship. Express the number of staterooms with a window as a decimal, rounded to the nearest $\frac{1}{1\,000}$ of the total number of staterooms. (4)

4.1.3 On a particular day, the sea temperature was –7 °C.
Convert the temperature to degrees Fahrenheit.

You may use the following formula:

$$°C = (°F - 32°) \times \frac{5}{9}$$ (3)

4.1.4 Explain why only ONE deck has a sunshade. (2)

4.1.5 State TWO ways of moving from one deck to another. (2)

4.1.6 The dimensions of the lounge deck are given in TABLE 4 below.
Some of the information has been omitted.

TABLE 4: DIMENSIONS OF THE LOUNGE DECK

ITEM	DIMENSIONS
Stateroom with balcony	… m × 6,5 m
Midship lounge (**B**)	13,65 m
Stateroom with window	2,8 m × 5,5 m
Internal walls (thickness)	0,045 m

(a) Explain why the staterooms numbered 208–213 are slightly bigger than the other staterooms on the same deck. (2)

(b) Calculate missing dimension **C**, shown on ANNEXURE C. (7)

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4.2 A new trampoline was purchased for the top deck of the cruise ship.

ANNEXURE D in the ANSWER BOOK shows step 4 and step 5 instructions for assembling the trampoline.

Use ANNEXURE D to answer the questions that follow.

4.2.1 Calculate the number of springs remaining after step 5 in DIAGRAM C has been completed. (3)

4.2.2 The diagonal installation of the springs is shown in DIAGRAM A and DIAGRAM B of the sketch. If the 9th spring is installed between spring 1 and spring 7, complete the sequence of installing the NEXT THREE springs by choosing the CORRECT option from the list below. Write ONLY the letter (A–C) next to the question number (4.2.2).

NOTE:

To ensure even tension and prevent issues with subsequent spring installation, install the springs diagonally. For example, begin at the 12 o'clock position and then at the 6 o'clock position.

A Between 2 and 8; between 4 and 6; between 1 and 5
B Between 2 and 8; between 3 and 5; between 4 and 6
C Between 3 and 8; between 4 and 6; between 4 and 7 (2)

4.2.3 Tom is a passenger on this cruise ship. He is 1,65 metres tall and has a body-mass index (BMI) of 26,5 kg/m^2.

Determine, rounded to the nearest kg, Tom's mass.

You may use the following formula: $\textbf{BMI} = \frac{\textbf{Mass}}{(\textbf{height in m})^2}$ (4)

[31]

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QUESTION 5

5.1 Polo is a sport very similar to hockey or soccer, which is played on horseback.

ANNEXURE E in the ANSWER BOOK shows a layout plan, entrance fees and parking costs for the Cowdray Polo Club, a popular ground for polo in the United Kingdom.

INFORMATION ABOUT THE SPORT POLO	POLO PLAYERS DURING A MATCH
OBJECTIVE: To score the most goals by hitting the ball through the opponent's goalposts THE MATCH: • Played in sessions called chukkas • Chukka – a period of play before a break • The width of LAWN ONE = 160 yards	

[Adapted from app.com.uk and wikipedia.org/wiki]

Use ANNEXURE E and the information above to answer the questions that follow.

5.1.1 Identify the gate closest to the Shopping Village. (2)

5.1.2 One of the spectators parked at Ⓟ (12). He began walking, using the following directions:

- He walked in a northerly direction between the parking area and LAWN TWO.
- He then turned left at the end of LAWN TWO.
- At the end of LAWN TWO, he turned in a southerly direction.
- He then stopped at the third area to take his seat.

Write down the name of the area where he finally sat. (2)

5.1.3 Mr and Mrs Moore, together with their 11-year-old son and 17-year-old daughter, visited the Cowdray Park polo grounds to watch a match. They travelled by car and used the parking facilities at the grounds.

Determine the family's total cost to enter and park at the grounds to watch a polo match. (4)

5.1.4 On one specific day, a match had 6 chukkas, EACH lasting 7,2 minutes, as well as a 4-minute chukka break and a half-time break. The half-time break lasted 10 minutes.

Calculate, in hours, minutes and seconds, the total duration of the polo match. (7)

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5.2 The Cowdray Polo Club has to manage the waste on the club grounds after a polo match.

The table below shows the different sizes of wheelie bins (bins on wheels to collect refuse), with the equivalent number of refuse bags and their maximum capacities.

PICTURES OF WHEELIE BINS AND SIZES		MAXIMUM WHEELIE-BIN CAPACITY	
		NUMBER OF REFUSE BAGS	IN LITRES
Small		11	660
Medium		13	770
Large		18	1 100

[Adapted from www.onitdirect.co.uk]

NOTE:

- **Volume = length × width × height**
- Outer measurements of a large wheelie bin in the table are given as: length = 1,370 m, width = 1,050 m and height = 1,385 m
- 1 m^3 = 1 000 litres

Use the above information to answer the questions that follow.

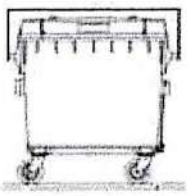
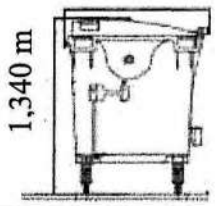
5.2.1 Calculate, in litres, the difference between the *volume* and the *capacity* of the large 1 100-litre wheelie bin. (4)

5.2.2 The general assistants collected waste that filled exactly 53 refuse bags.

Determine the minimum combination of wheelie-bin sizes required to hold all the waste that was collected.

NOTE: All bins must be filled to capacity. (3)

5.2.3 Below are the outer dimensions of a small wheelie bin.

UPRIGHT FRONT VIEW	UPRIGHT SIDE VIEW
1,375 m 	1,085 m  1,340 m

A trailer with the following dimensions is used to move the wheelie bins on the grounds: length = 4,13 m and width = 2,17 m.

Determine the maximum number of small wheelie bins that can fit exactly on the trailer. Wheelie bins are transported on the trailer in an upright position. (6)

[28]

TOTAL: 150

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SUBJECT NAME	MATHEMATICAL LITERACY

MARKER				MODERATOR'S INITIALS IN RELEVANT BLOCK											
Question	Marks	Marker's Code & Initials		Marks	SM	Marks	DCM	Marks	CM	Marks	IM	Marks	EM
1													
2													
3													
4													
5													
		TOTAL											

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1. Clearly write your examination number and centre number in the spaces provided and attach your barcode label in the space provided.
2. Remember that your own name (or the name of your school) may not appear anywhere on this ANSWER BOOK.
3. Answer ALL the questions in the spaces provided in this ANSWER BOOK ONLY. If you require additional space for your answers:
   - 3.1 Use the additional space provided at the end of the ANSWER BOOK.
   - 3.2 When answering a question in the additional space, indicate clearly the question number in the column on the left-hand side.
4. No pages may be torn from this ANSWER BOOK.
5. Candidates may not retain an ANSWER BOOK or remove it from the examination room.
6. Answers must be written in black/blue ink as distinctly as possible.
7. Do not write in the margins.
8. Draw a neat line through any work/rough work that must NOT be marked..

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QUESTION 1

	Solution	Marks
1.1.1		(2)
1.1.2		(2)
1.1.3		(2)
1.1.4		(2)
1.1.5		(2)
1.2.1		(2)
1.2.2		(3)
1.2.3		(2)
1.2.4		(2)
1.2.5		(2)
1.3.1		(2)
1.3.2		(2)
1.3.3		(2)
1.3.4		(2)
1.3.5		(2)
		[31]

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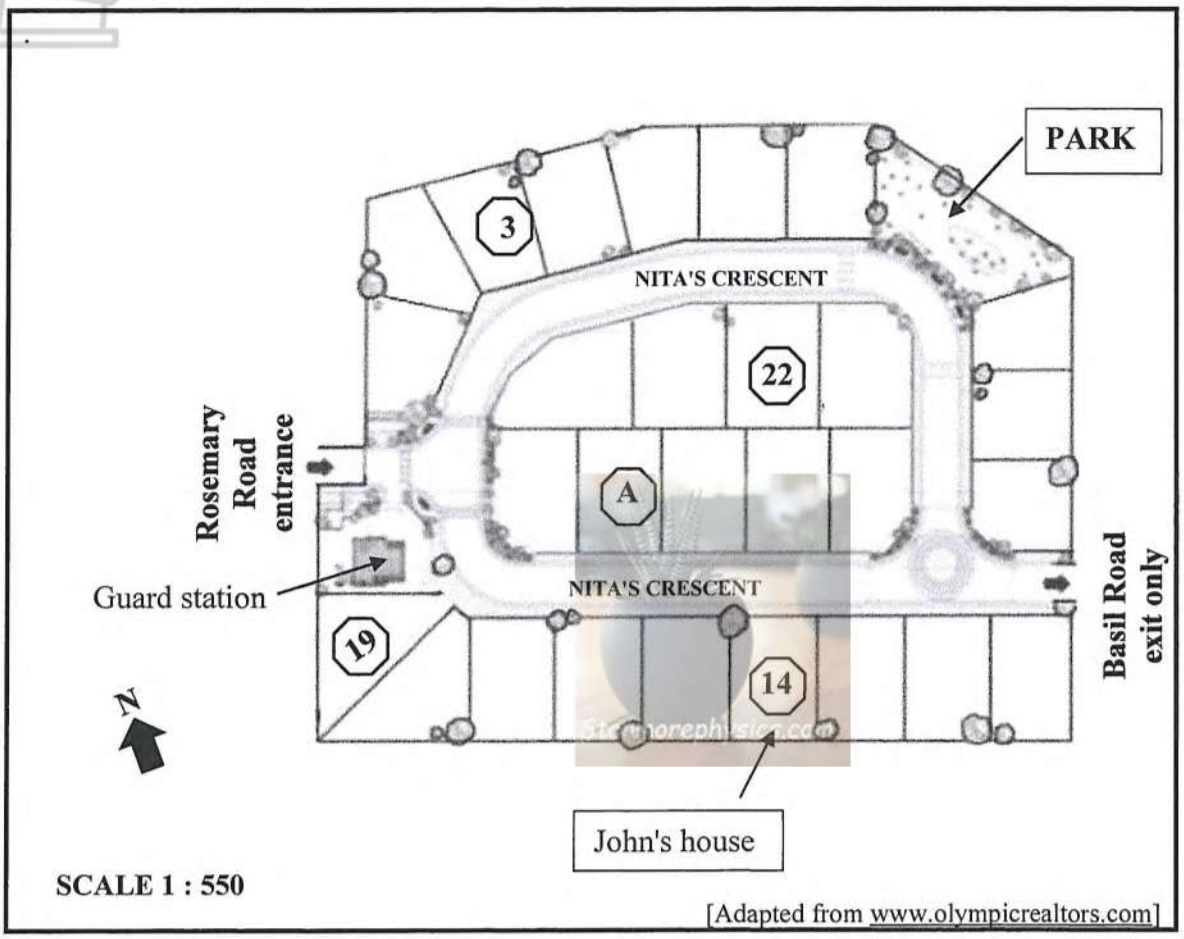
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QUESTION 2

ANNEXURE A

LAYOUT PLAN FOR THE BELLA DONNA HOUSING COMPLEX



NOTE:

The park and the guard station are NOT part of the house numbering system.

KEY:

	Tree
22	House number

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QUESTION 2

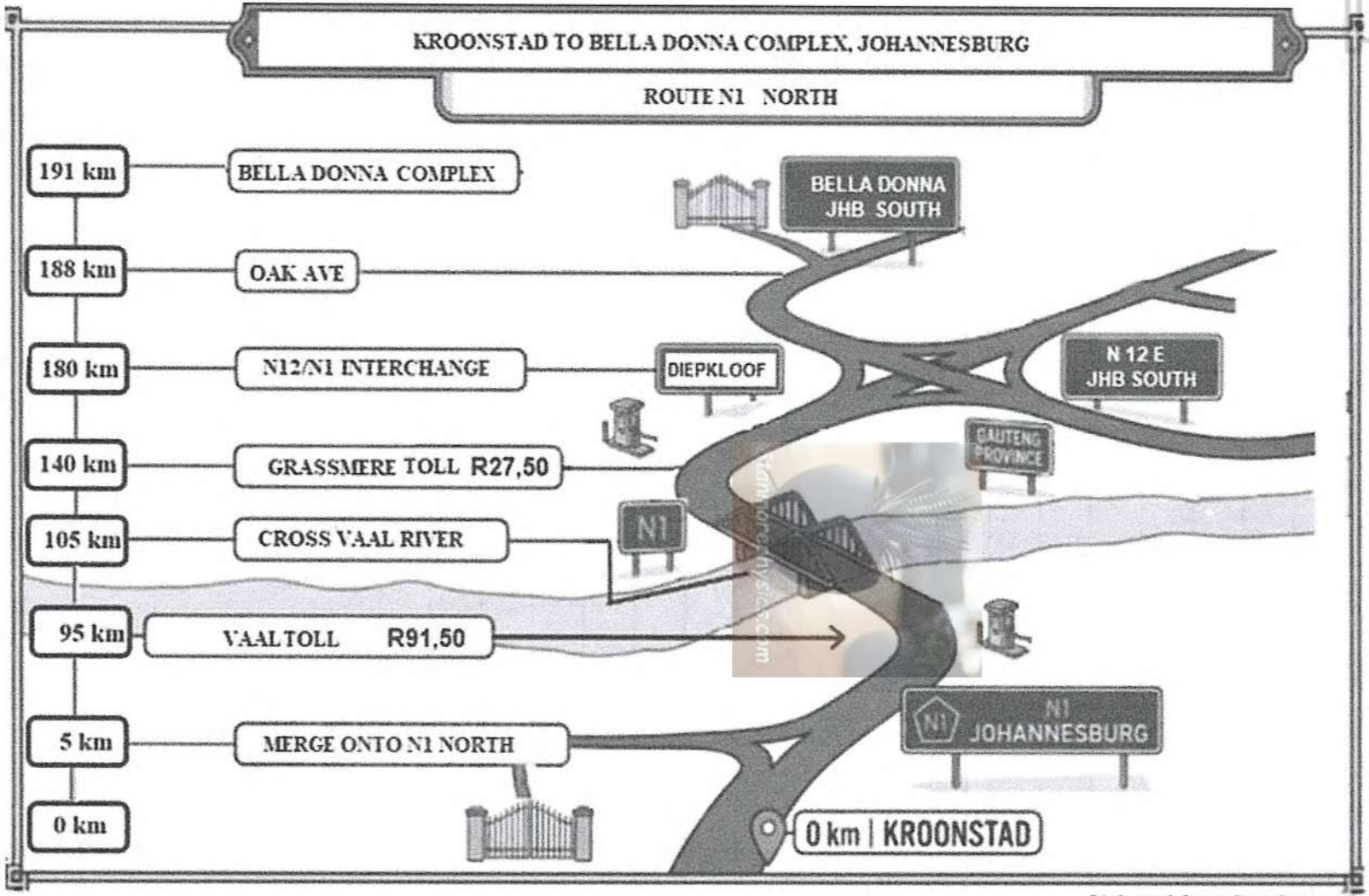
	Solution	Marks
2.1.1		(2)
2.1.2		(2)
2.1.3 (a)		(2)
2.1.3 (b)		(2)
2.1.4		(5)
2.1.5		(6)

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QUESTION 2.2

ANNEXURE B: STRIP MAP OF ROUTE FROM KROONSTAD TO BELLA DONNA COMPLEX



[Adapted from Google maps]

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	Solution	Marks
2.2.1		(2)
2.2.2		(2)
2.2.3		(2)
2.2.4		(4)
		[29]



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QUESTION 3

	Solution	Marks
3.1.1		(3)
3.1.2		(5)
3.1.3		(5)
3.1.4		(4)

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	Solution	Marks
3.2.1		(2)
3.2.2		(3)
3.2.3		(9)
		[31]

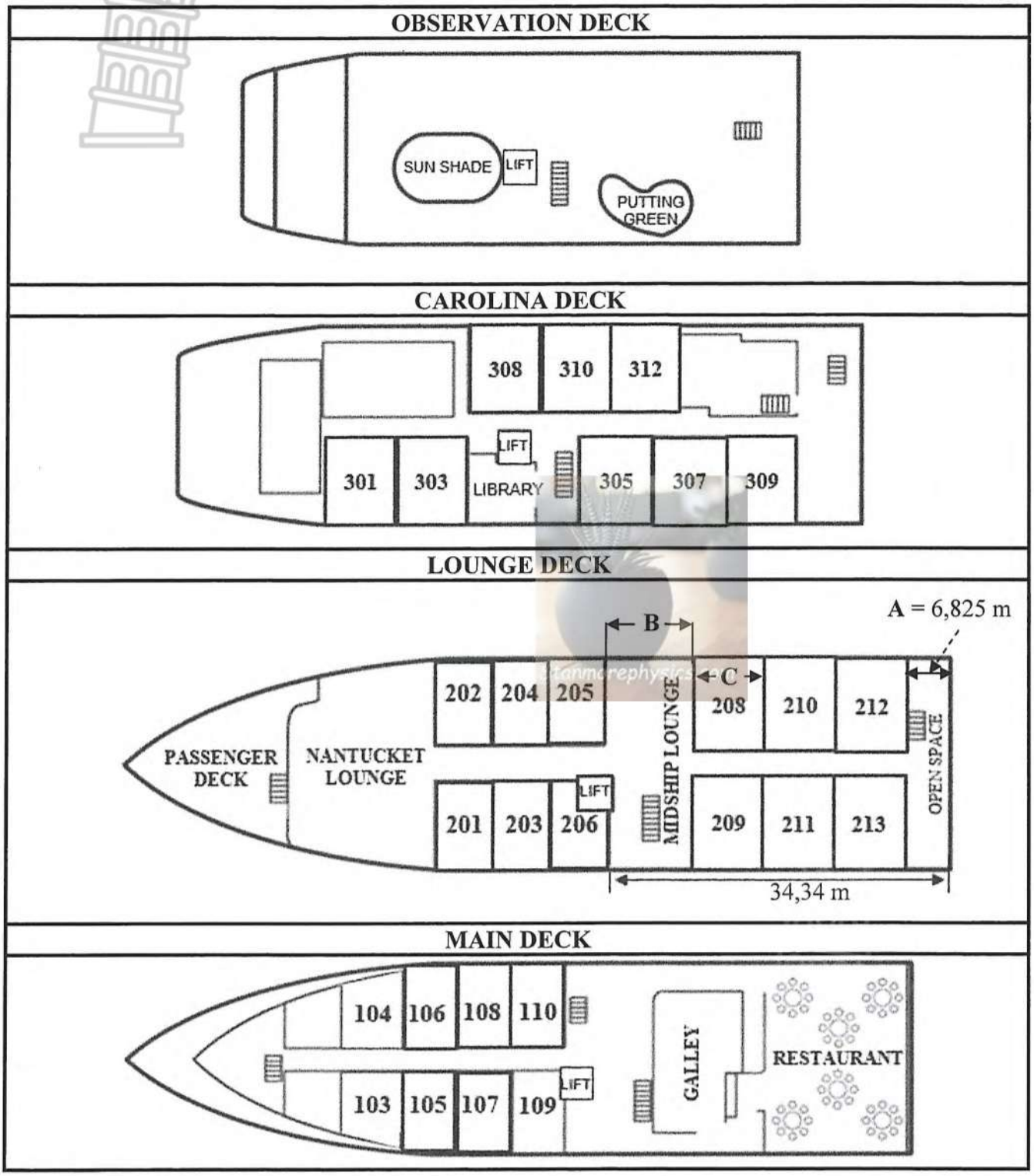
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QUESTION 4.1

ANNEXURE C: LAYOUT PLAN OF A CRUISE SHIP



106–110	Stateroom with window
201–206	Stateroom with window
208–213	Stateroom with balcony
LIFT	Lift

103–105	Single room with window
301–312	Stateroom with balcony
	Stairs
	Tables and chairs

[Adapted from smallcruiseadventures.com]

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QUESTION 4

	Solution	Marks
4.1.1		(2)
4.1.2		(4)
4.1.3		(3)
4.1.4		(2)
4.1.5		(2)
4.1.6 (a)		(2)
4.1.6 (b)		(7)

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QUESTION 4.2

ANNEXURE D: STEP 4 AND STEP 5 OF ASSEMBLING A TRAMPOLINE

STEP 4:

Lay the jumping mat inside the circular frame of the trampoline.

Assembly parts for the trampoline		
Spring tool		1 piece
Springs		72 pieces
Jumping mat		1 piece



STEP 5:

Install the springs diagonally according to a certain pattern to ensure that the tension is distributed evenly across the jumping mat.

DIAGRAM A

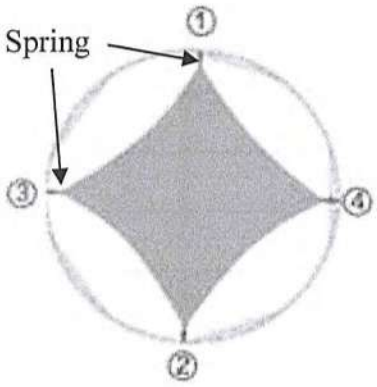


DIAGRAM B

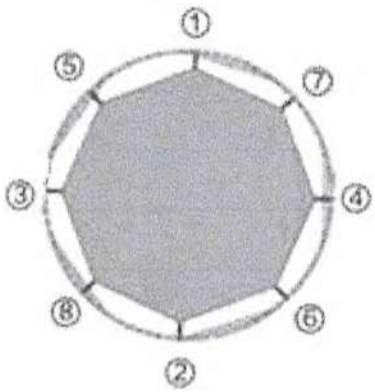
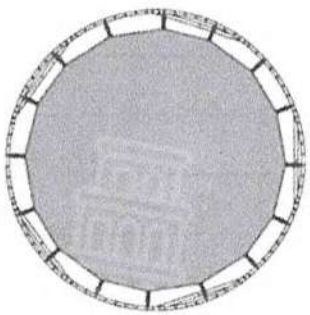


DIAGRAM C



[Adapted from www.pinterest.com]

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4.2.1		(3)
4.2.2		(2)
4.2.3		(4)
		[31]

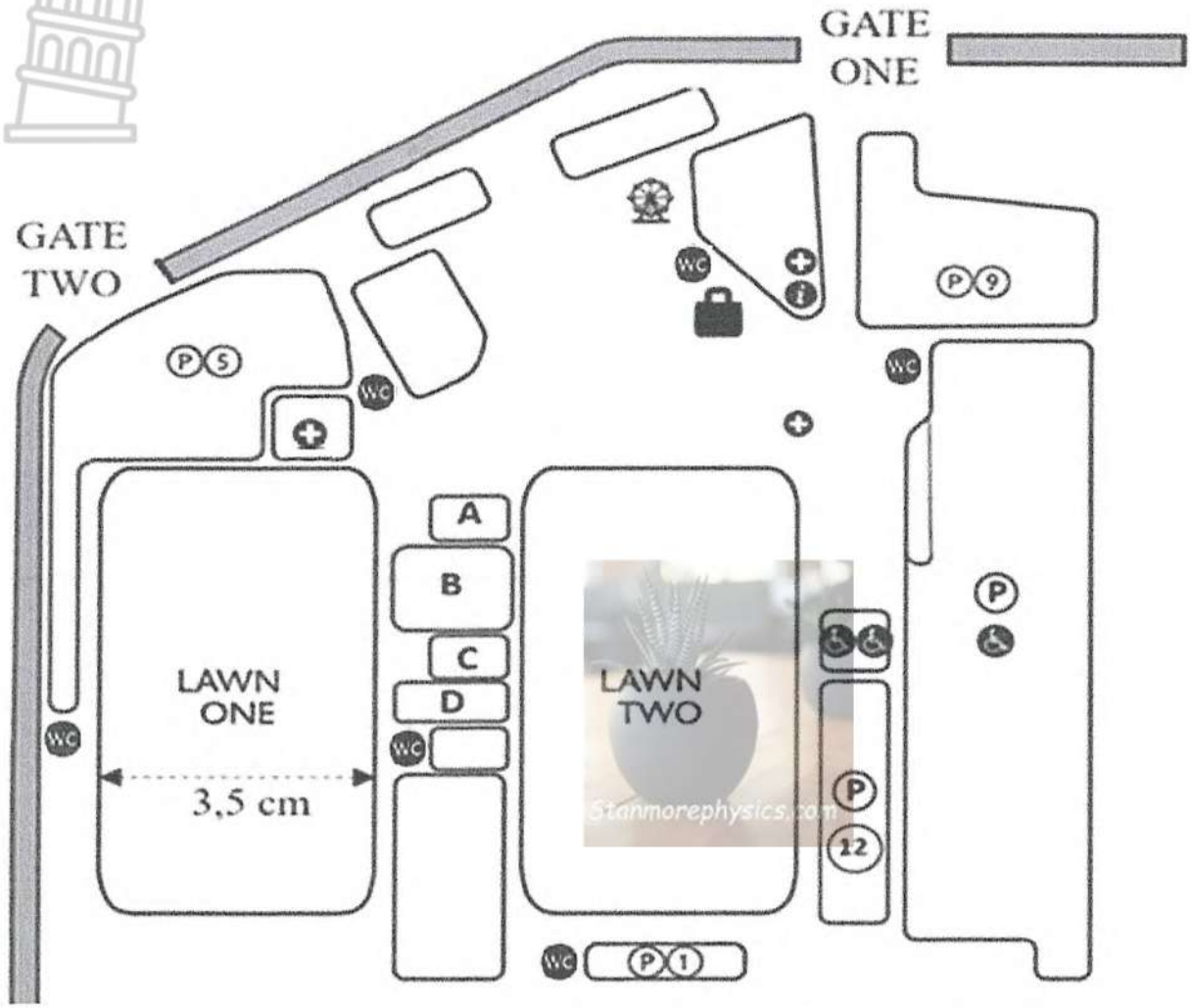
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QUESTION 5.1

ANNEXURE E: LAYOUT PLAN OF THE COWDRAY PARK POLO CLUB GROUNDS



KEY:					
WC	Toilets		Fun Fair	P	Parking
	First Aid		Shopping Village	A	Pearson Pagodas
	Parking for Persons with Disabilities		Information	B	Lawn Enclosure
	Food and Drinks		Music	C	Grandstand
				D	Members' Enclosure

COWDRAY PARK GROUNDS ENTRY FEE AND PARKING COST IN POUNDS (£)	
ADULTS	42,50
CHILDREN AGED 13–18 YEARS	21,25
CHILDREN UNDER 13 YEARS	Free
PARKING (PER DAY)	30

[Adapted from cowdrypolo.co.uk]

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QUESTION 5

	Solution	Marks
5.1.1		(2)
5.1.2		(2)
5.1.3		(4)
5.1.4		(7)

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	Solution	Marks
5.2.1		(4)
5.2.2		(3)
5.2.3		(6)
		[28]

TOTAL: 150

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