

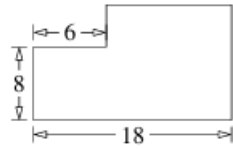
Individual Paper 2025

SECTION A [15 marks]

Questions 1 to 5 are worth 3 marks each.

For each question, 5 options are given. One of them is the correct answer.

Select your answer and write it on the Answer Sheet.

1	In the diagram, all distances shown are in cm. The perimeter of the shape is 60cm. What is the area, in cm ² , of the shape?				
					
	192	204	212	232	252

2	Yoder entered his cave at midnight on May 21 and came out at midnight on September 2. How many days was he in there?				
	92	105	100	103	104

3	A Toyota travels 120 kilometres in the time that a Ferrari moving 40 km/h faster travels 150 kilometres. How fast does the Toyota travel?				
	120km/h	140km/h	160km/h	180km/h	200km/h

4	Frances checked the weather on 100 days at Frankston. It was sunny on 27 days, cloudy on 51 days and rainy on 22 days. Based on this, what is the probability that the next day will be rainy?				
	0.15	0.2	0.22	0.25	0.3

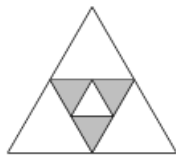
5	What is the sum of the first nine primes?				
	78	125	100	105	127

SECTION B [20 marks]

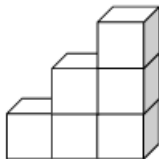
Questions 6 to 10 carry 4 marks each.

For each question, 5 options are given. One of them is the correct answer.

Select your answer and write it on the Answer Sheet.

6	The diagram shows an equilateral triangle divided into four smaller equilateral triangles. One of these triangles has itself been divided into four smaller equilateral triangles. What fraction of the area of the large triangle has been shaded?				
	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{5}{16}$	$\frac{3}{8}$

7	Alex chooses three from the six primes 2003, 2011, 2017, 2027, 2029 and 2039. The mean of his three primes is 2023. What is the mean of the other three primes?				
	2015	2019	2020	2021	2025

8	These steps are made from six wooden cubes glued together. It takes 1200 mL of paint will paint all six faces of one of the cubes. How much paint will be needed to paint the steps? (The underside is not painted.)				
	2400ml	4800ml	4200ml	6400ml	7200ml

9	A fish tank contains 200 fish. 98% are black; 2% are white. How many black fish would you need to add to make 99% of the fish black?				
	2	4	100	200	120


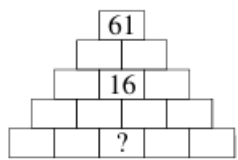
10	In a sale which offers a 15% discount on all marked prices, I buy three articles: a pair of trainers priced at \$57.74, a T-shirt priced at \$17.28, and a yo-yo priced at \$4.98. How much do I pay in total?				
	\$66.50	\$65.00	\$68	\$70	\$72

SECTION C [25 marks]

Questions 11 to 15 carry 5 marks each.

For each question, 5 options are given. One of them is the correct answer.

Select your answer and write it on the Answer Sheet.

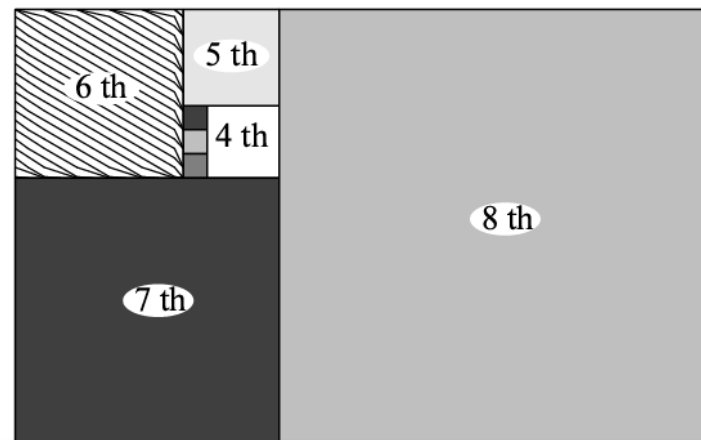
11	<p>Regular pentagon $PQRST$ has centre O. Lines PH, FI, and GJ go through O. The six angles at O are equal. What is the size of angle TGO?</p> 				
	60°	72°	75°	76°	78°
12	<p>The following triangular number pattern is continued until there are 100 rows.</p> <pre> 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 . . . </pre> <p>What is the second number from the left in the 100th row?</p>				
	4513	9803	9606	10002	9763
13	<p>What is the value of “D” in the following multiplication?</p> <pre> A B C D x 4 ----- D C B A </pre>				
	2	6	8	0	3
14	<p>In the number pyramid shown, each cell above the bottom row contains the sum of the numbers in the two cells immediately below it. The sum of the numbers in the bottom row is 17. What is the central number of the bottom row?</p> 				
	2	3	4	5	6
15	<p>A positive whole number less than 100 has a remainder 2 when it is divided by 3, remainder 3 when it is divided by 4 and remainder 4 when it is divided by 5. What is its remainder when it is divided by 7?</p>				
	2	3	4	5	6

Read the questions carefully and write your answer on the Answer Sheet.

The number of marks available is shown in the brackets at the end of each question. There are 40 marks in total to be gained from this section.

16. The diagram shows the first few squares of a ‘spiral’ sequence of squares. All but the first three squares have been numbered. After the first six squares, the sequence is continued by placing the next square alongside three existing squares – the largest existing square and two others.

The three smallest squares have a side length of 1. What is the side length of the 12th square?



[6 marks]

123

17. Natasha and Rosie are running at constant speeds in opposite directions around a running track. Natasha takes 70 seconds to complete each lap of the track and meets Rosie every 42 seconds. How long does it take Rosie to complete each lap?

105 seconds

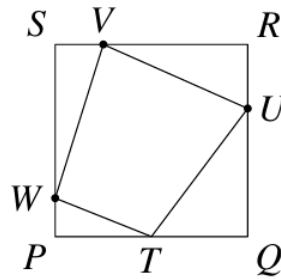
[7 marks]

18. Jacob and Zain take pencils from a box of 21 pencils without replacing them. On Monday Jacob takes $\frac{2}{3}$ of the number of pencils that Zain takes. On Tuesday Jacob takes $\frac{1}{2}$ of the number of pencils that Zain takes. On Wednesday morning the box is empty. How many pencils does Jacob take?

[8 marks]

8 pencils

19. The diagram shows a square $PQRS$ with an area of 120cm^2 . point T is the mid-point of PQ . The ratio $QU:UR = 2:1$, the ration $RV:VS = 3:1$ and the ratio $SW:WP = 4:1$. What is the area, in cm^2 , of the quadrilateral $TUVW$?



[9 marks]

67 cm^2

20. Assuming you are working with a decimal based currency (denominations of 1,10,100,1000,...), how many way of paying 1997 are there?

[10 marks]

2650 ways