LRN International GCSE: Mathematics (7131)

Candidate Name	
Candidate Number	
Centre Name	
Centre Number	

Paper 2

Model Paper

(2 hours)

It is necessary to respond on the answer sheets provided alongside this question paper. Additionally, you must have a soft pencil (preferably of type B or HB), a clean eraser, and a dark blue or black pen.

INSTRUCTIONS:

- You must write your name, candidate number, centre name, and centre number on the answer sheets in the designated spaces.
- Attempt all the questions from the subjective section using a dark blue or black pen.
- It is important to follow the instructions provided on the answer sheets.
- Do not use correction fluid.
- Avoid writing on any bar codes.
- You are allowed to use a calculator if needed.

INFORMATION:

- This paper has a total of 100 marks.
- The number of marks assigned for every question or its parts is indicated within brackets ( ).
- Rough work must be completed on this question paper.

Q. No. 1: If a hedgehog crosses a road before 7:00 am, the probability of being run over is $\frac{1}{10}$. After 7:00 am, the corresponding probability is $\frac{3}{4}$. The probability of the hedgehog waking up early enough to cross before 7:00 am is $\frac{4}{5}$. What is the probability of the following events?

a) The hedgehog wakes up too late to reach the road before 7:00 am.

b) The hedgehog wakes up early and crosses the road in safety.

c) The hedgehog waking up late and crossing the road in safety.

d) The hedgehog waking up early and being run over.

e) The hedgehog crossing the road in safety. **[15]**

Q. No. 2: Draw Ven Diagrams of the following:

a) $A \cup B$

b) $A \cap B'$

c) AB'

d) $(A \cap B)'$

e) $(A \cup B') \cap C$ **[20]**

Q. No. 3: The points X and Y lie on the circumference of a circle. The circle has a centre of O and a radius of 8cm and <XOY =80°. Calculate:

a) The length of the minor arc XY.

b) The length of the chord XY.

c) The area of the sector XOY.

d) The area of the triangle XOY.

e) The area of the minor segment of the circle cut off by XY. **[20]**

Q. No. 4: Copy the table and find the quantities marked (*).

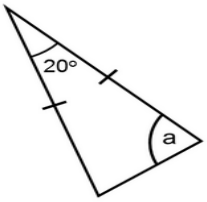
Take π=3.14 **[20]**

	Solid objects	Radius	Height	Curved Surface Area	Total Surface Area
a)	Cylinder	4cm	*	$72cm^2$	
b)	Sphere	*		$192cm^2$	
c)	Cone	4cm	*	$60cm^2$	
d)	Sphere	*		$0.48m^2$	
e)	Cylinder	5cm	*		$330cm^2$
f)	Cone	6cm	*		$225cm^2$
g)	Cylinder	2m	*		$108m^2$

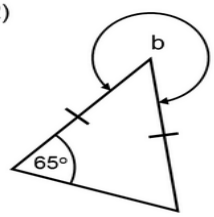
Q. No. 5: Find the missing angles. **[12]**

find the angle for the letters (i)

(1)



(2)



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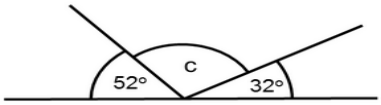

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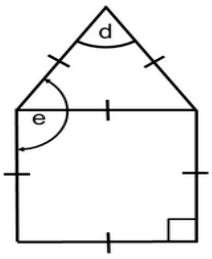
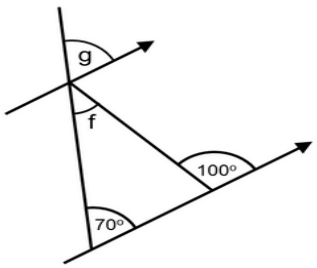
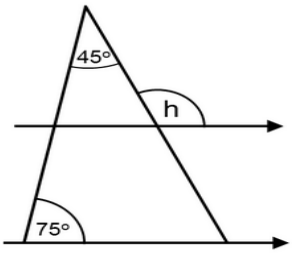


(5)



(6)



Q. No. 6: P and Q are two straight lines. P has a gradient of 3 and passes through the point (3,2). Q has a gradient of 2 and passes through the point (1,4).

a) Draw lines P and Q on a graph.

b) Find the equations of P and Q.

c) Write down the coordinate of R, the point of intersection of P and Q.

d) Show that R lies on the line y = - 4x. **[8]**

Q. No. 7: a) Simplify 3(2x - 5) -2(2x + 3).

b) Factorize 2a - 3b - 4ax + 6bx.

c) Solve the equation $\frac{x-11}{2} - \frac{x-3}{5} = 2$. **[5]**