LRN International GCSE: Mathematics (7131)

Candidate Name	
Candidate Number	
Centre Name	
Centre Number	

Paper 2: Mathematics

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: Find the square roots of the following numbers by the Division method:

a) 58900

b) 52388619

Solve the following complex fractions:

c) $\frac{1\frac{1}{2}-2\frac{2}{3}}{3\frac{1}{4}+1\frac{1}{6}}$

d) $\frac{\frac{3}{4}}{\frac{5}{6}}$

e) There are 828 people on a ship. If 389 people disembark before the ship completes its course, how many people will reach the destination? **[15]**

Q. No. 2: Factorize the following:

a) $4x^2 - \frac{z^{21}}{100}$

b) $0.003^2 - 0.002^2$

c) $(x+2)^2 - (x-3)^2 = 3x - 11$

d) Kimiya has four times as many as many marbles as Ramneet. If Kimiya gave 18 to Ramneet they would have the same number. How many marbles have each?

e) $x^2 = 15$ **[15]**

Q. No.3: Check that both points lie on the lines by substituting x- and y-coordinates into the equation.

(i) (1,1) to (5,7)

(ii) (1,3) to (5,7)

(iii) (3,4) to (5,7)

(iv) (-2,3) to (5,7)

(v) (2,9) to (5,7) **[15]**

Q. No. 4: A-line goes through points (2,1) and (4,9).

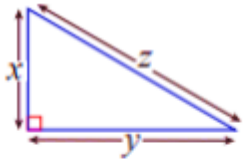
a) Show that the gradient of the line is 4.

b) Find the equation of the line with gradient 4 that passes through (2,1).

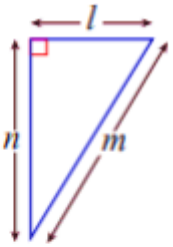
c) Check out (4,9) lies on your line. **[15]**

Q. No. 5: For each triangle, write down which is the longest side (the hypotenuse). Then write Pythagoras theorem in terms of the letters given.

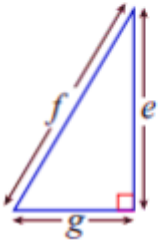
a)



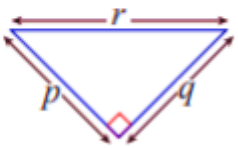
b)



c)

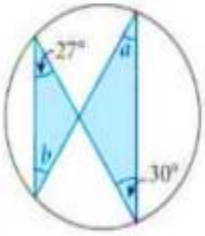


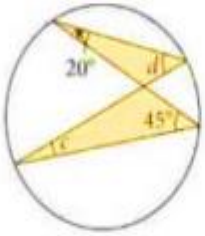
d)

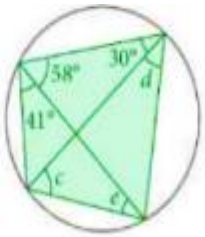


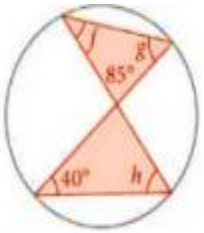
[12]

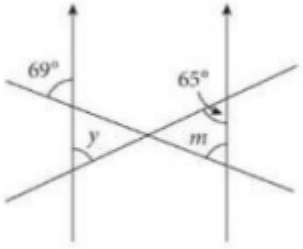
Q. No. 6: Find the angles marked with letters.

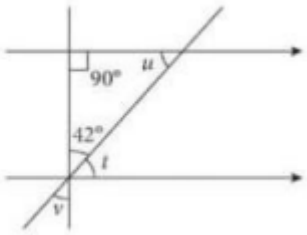
1. 

2. 

3. 

4. 

5. 

6. 

[18]

Q. No. 7: A coin is biased so that the probability of tossing a head is 56%.

a) What is the probability of tossing a tail with this coin?

b) How many tails would you expect when the coin is tossed 500 times? **[10]**