Revision Test 2

MATHEMATICS

Paper 02

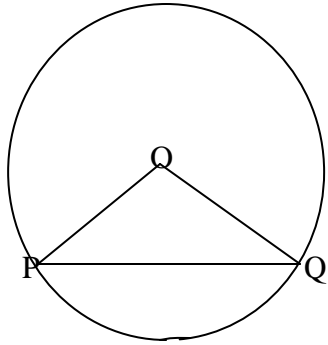**INSTRUCTIONS TO CANDIDATES**

1. This test consists of 4 problems

2. Answer ALL questions.

3. ALL working must be shown clearly.

4. The use of calculators is allowed.

Name:

Class:

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO

1. In this question, take π = 3.14

In the figure above, **not drawn to scale**, chord PQ subtends angle POQ at O, the centre of the circle. Angle POQ = 90° and OP = 15 cm.
Calculate to three significant figures
   a. the area of the circle
   b. the area of the minor sector OPQ
   c. the length of the minor arc PQ.

2 (a) Factorize the following expressions

$$-18lm + 36\ln + 54lo$$

(b) $\dfrac{R^2 S^2}{24} + \dfrac{R^2 S}{12} - \dfrac{R^3 S^2}{48}$

(c) $36a^4 b^5 - 12a^3 b^2 + 18a^3 b^4$

3 a) The table below shows the number of children per family in the families of the pupils in a class

No. of children	Frequency
1	3
2	5
3	10
4	6
5	8
6	4
7	1
8	13

Find

i) the mean

ii) the mode

iii) the range

iv) the median

b) Forty students were asked to state their favourite colours. The table below was obtained

Colours	No. of Students
Red	10
Blue	8
Orange	9
Yellow	7
Green	5
Brown	1

i) Draw a bar chart to show the information given
ii) Draw a pie chart to represent the information.

4.

a) Using ruler and compasses only bisect a line segment OT of length 12.2cm. Measure and state the distance between the end points and the perpendicular bisector.

b) Using ruler and compasses only construct angles of 90°, 45° and 135° under the same construction.