

**Candidate Name****Candidate Number****Centre Name****Centre Number**

Paper 1 (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: Solve the following questions.

[12]

(i) Write the fraction five-eighth as an equivalent fraction with a denominator of 24. **[2]**

(ii) Simplify the following.

[8]

a) $\frac{2}{5}$ of 25g.

b) $\frac{3}{7}$ of 30m.

c) $\frac{4}{9}$ of 45 gallons.

d) $\frac{3}{4}$ of 420 miles.

(iii) Find the reciprocal of x^2 .

[2]

Q. No. 2: Calculate the terms given below. [11]

(i) Find the H.C.F. by long division method. [4]

a) 84,56

b) 21,68,77

(ii) Simplify $\sqrt{132}$. [2]

(iii) A square-place quilt has an area of 361 square inches. Jolly decided to decorate the place quilt by putting a fridge around the edges. How many inches of fridge will Jolly need to buy? How many feet is this? [3]

(iv) A pattern has 4 blue triangles for every 12 yellow triangles. What is the ratio of blue triangles to all triangles? [2]

Q. No. 3: Solve the following.

[14]

(i) Calculate the terms given.

[10]

a) $-12 \div \left(\frac{1}{4}\right)$

b) $(-2)^3$

c) $x^2 - 81 = 0$

d) $x^2 + 6x + 4 = 0$

e) $\frac{9x^2 - 4}{3x - 2} \div \frac{9x + 6}{5x}$

(ii) $W = \frac{kmn(k + m + n)}{(k + m)(k + n)}$ $k = \frac{1}{2}, m = -\frac{1}{3}, n = \frac{1}{4}$ **[4]**

Q. No. 4: Evaluate the following questions.

[10]

(i) Simplify.

[4]

a) $(2a - 3b)^2$

b) $100x - 5 = -6$

(ii) David's mass is 5kg less than John's, who in turn is 8kg lighter than Paul's. If their total mass is 197kg, how heavy is each person?

[3]

(iii) A shop owner can buy either two televisions and three DVD players for \$1750 or four televisions and one DVD player for \$1250. Find the cost of one of each.

[3]

Q. No. 5: Construct the following.

[12]

(i) Draw the graphs of the lines that go through these points.

[4]

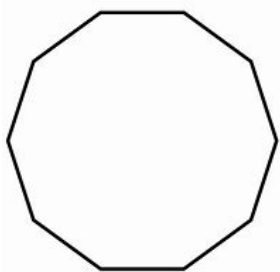
a) (1,1)

b) (-2,1)

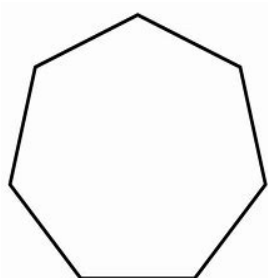
(ii) Name the figure:

[2]

a)



b)



(iii) With the help of a ruler measure 5 cm and mark it as AC. [2]

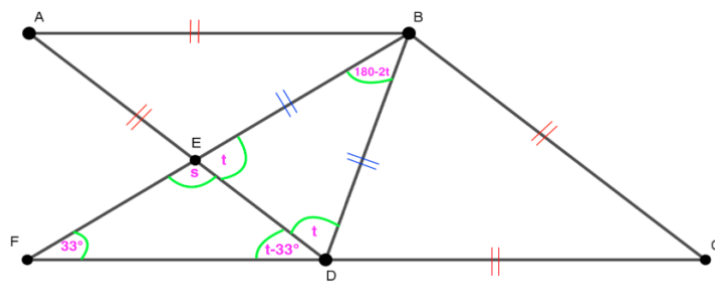
(iv) Find the length of the hypotenuse of each triangle. [4]

a) $x^2 = 5^2 + 12^2$

b) $y^2 + 15^2 = 17^2$

Q. No. 6: Calculate the questions. [15]

(i) Find Angles. [8]



(ii) A ladder is placed on horizontal ground and leans against a vertical wall. It reaches a height of 3.2m up the wall. The foot of the ladder is 2.4m from the base of the wall. Calculate the length of the ladder. [3]

(iii) A square is drawn with its vertices on the circumference of a circle of radius 5cm.

a) What is the length of each side of the square?

b) The regions between the square and circle are four segments. [4]

Q. No. 7: Find the answers. [14]

(i) a) Find θ , when $r=5\text{cm}$ and $l=7.5\text{cm}$. [6]

b) Find θ , when $r=2\text{cm}$ and $A=2\text{cm}^2$.

c) Find r , when $\theta = 55^\circ$ and $l=6\text{cm}$.

(ii) Draw Ven diagram.

[8]

a) $A \cup B'$

b) AB'

c) $(A \cap B)'$

d) $(A \cap B) \cup (A \cup B)'$

Q. No. 8: Solve the following statements.

[12]

(i) Write tally numbers of frequency 2, 4, 8, and 9.

[2]

(ii) A red die and a blue die are thrown at the same time.

[10]

List all the possible outcomes systematically.

Find the probability of obtaining.

a) A total of 10.

b) A total of 12.

- c)** A total of less than 6.
- d)** The same number on both dice.
- e)** A total of more than 9.