

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: a) Use the substitution method to solve the following:

1. $3m - n = 5$

$$2m + 5n = 7$$

2. $X + 2(y - 6) = 0$

$$3x + 4y = 30$$

b) Solve the simultaneous equations:

1. $3x - 4y = 19$

$$x + 6y = 10$$

2. $2m - n = 6$

$$2m + 3n = -6$$

c) Find the value of $\frac{2x - 3y}{5x + 2y}$ when $x = 2a$ and $y = -a$.

[10]

Q. No. 2: Plot the following points in the Cartesian plane:

a) $(1,5)$, $(1,12)$, $(1,1)$, $(5,7)$, $(-2,1)$.

b) Find their y-intercepts.

c) Write down their equations.

[15]

Q. No. 3: Name and describe the properties of polygons.

[16]

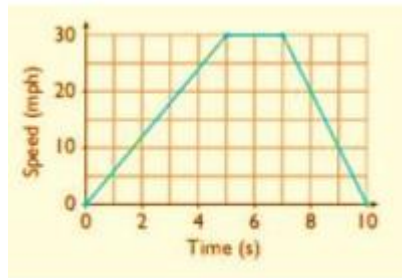
Q. No. 4: This graph shows the way that the speed of one car changes in a certain 10-second period.

a) What is happening to the car between 5 and 7 seconds into its journey?

b) What is the rate of change of speed during the first 5 seconds?

c) What term describes the rate of change of speed?

[12]



Q. No. 5: If $\sin\beta = \frac{6}{7}$ and β is an acute angle, find the other five trigonometric function values of β .

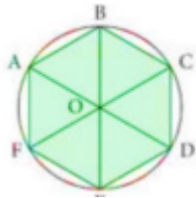
[10]

Q. No. 6: A regular hexagon is circumscribed by a circle of radius 3cm with a centre.

a) What is the angle EOD?

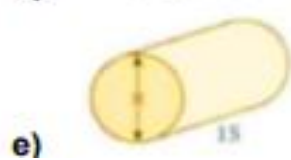
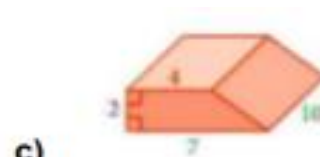
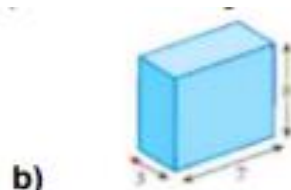
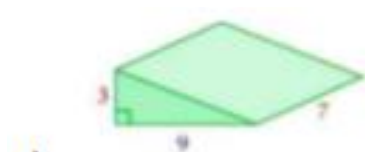
b) Find the area of the triangle EOD and hence find the area of the hexagon ABCDEF.

[15]

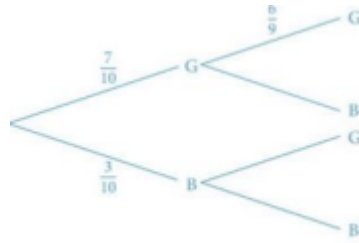


Q. No. 7: Calculate the volume of the prisms. All lengths are in cm.

[18]



Q. No. 8: A bag contains 7 green discs and 3 blue discs. A disc is drawn and not replaced. A second disc is drawn. Copy and complete the tree diagram.



Find the probability that:

a) Both discs are green.

b) Both discs are blue.

[4]