

MODEL ENTRANCE TEST PAPER

BRITISH SECTION

SUBJECT: MATHEMATICS

Grade: 9

TOTAL MARKS: 25

SECTION – A

I. Choose the correct answers:

[3 Marks]

1. What is the value of $x^2 - 3x + 5$ when $x = 2$.

- A. 0 B. 2 C. 3 D. 5

2. Which of the following is not equal to $\frac{1}{2} pq$?

- A. $\frac{pq}{2}$ B. $q \times \frac{p}{2}$ C. $\frac{1}{2} qp$ D. $\frac{1}{2p} \times q$

3. Which of the following is equal to $x^2 + 5x + 6$?

- A. $(x + 2)(x + 3)$ B. $(x + 5)(x + 1)$
C. $(x + 6)(x + 1)$ D. $(x - 2)(x - 3)$

4. If $x = 5$ and $y = 3$ then $x^2 - y^3$ equals.

- A. -2 B. 16 C. 34 D. 52

5. $\frac{6m - 2n}{2}$ is equal to

- A. $\frac{3m - 2n}{2}$ B. $6m - 2$ C. $3m - 2n$ D. $3m - n$

6. If $(x + 3)(x - 1) = 0$ then the value of x is

- A. 3 or -1 B. 3 or 1 C. -3 or -1 D. -3 or 1

7. If $x^2 - 25 = 0$ then x is equal to

- A. ± 5 B. +5 C. -5 D. 25

8. The value of $64^{\frac{1}{3}}$ is

- A. 4 B. 8 C. 2 D. $21\frac{1}{3}$

9. When written in standard form 0.0063 is

A. 6.3×10^{-4}

B. 63×10^3

C. 63×10^{-3}

D. 6.3×10^{-3}

10. $(3a^2)^3$ is equal to

A. $27a^3$

B. $27a^6$

C. $3a^6$

D. $9a^6$

11. Angles on a straight line add upto

A. 180°

B. 270°

C. 90°

D. 360°

12. $m^3 \times m^0 =$

A. m^3

B. m^0

C. m^{30}

D. m^4

II. Fill in the blanks:

[7 Marks]

1. A quadrilateral inscribed in a circle is called a
2. Diameter = $2 \times$
3. A is any plane figure bounded by four straight lines.
4. $x^0 =$
5. Probability of Certainty =
6. Probability of Impossibility =
7. $P(\text{not } A) = 1 -$
8. A angle is greater than 180° .
9. $1\text{cm} =$ mm.
10. $8 \div 0 =$
11. Volume of a sphere =
12. Circumference of a circle =
13. When a number is multiplied by zero the product is
14. If $5x + 3 = 8$ then $x =$

SECTION – B

(15 Marks)

1. Solve $[5 \times (-3) \times 6] \div [(2 - 12) \times (5 - 8)]$
2. If $A = \begin{pmatrix} 3 & 5 \\ 6 & 2 \end{pmatrix}$ $B = \begin{pmatrix} 4 & 7 \\ 8 & 1 \end{pmatrix}$ Find $A + B$

3. Solve the following simultaneous equation

$$3x + 5y = 21$$

$$2x + 3y = 13$$

4. Make x the subject of the formula $P = \frac{k}{\sqrt{x}}$.

5. A body travels a distance of 80m in 4 seconds. What is its average speed?

6. A bag contains 5 blue balls 3 red balls and 2 black balls. A ball is drawn at random from the bag. Calculate the probability that it will be (a) blue (b) not black

7. Two angles of a triangle are 35° and 65° . What is the size of the third angle. Name the triangle.

8. Simplify $m^2n \times (-mn) \times 5m^2n^2$.

9. Factorise $25x^2 - 10x + 1$.

10. Simplify $\frac{5}{2x+3} - \frac{2}{5x}$.