Time: 1 hr 20 min.   M.M.: 30

General Instructions:-   All questions are compulsory.

Q.No.	Questions	Marks
	Section -A	
1)	$\frac{2}{5}$ of a number 25 is (a) 25 (b) 10. (c) 35. (d) 7	1
2)	The H.C.F of $16x^2y$ and $4xy^2z$ is (a) 16xy (b) 4^2y (c) 4xy (d) $16x^2yz$	1
3)	How many lines of symmetry of an isosceles triangle has? (a) 3 (b) 1. (c) 2. (d) 4	1
4)	$-9x^2y^2z$ is a . (a) Monomial (b) Binomial (c) Trinomial (d) Equation	1
5)	**Assertion: A cube has 6 square faces.** **Reason: A cube is a 3-D shape with equal length, width and height.** (a) Both assertion and reason are correct and Reason is the correct explanation for assertion. (b) Both assertion and reason are correct and Reason is not the correct explanation for assertion. (c) Assertion is true but reason is false. (d) Both assertion and reason are false.	1
	Section -B	
6)	If 4x-3= 21 ,find the value of 2x-5.	2
7)	Factories: $a^2+2bc+2ac+ab$	2
8)	lines l and M are the lines of symmetry of the line segment XY and YZ respectively. If XA=3.5 cm and YZ=6cm.find AY and YB. 	2
9)	When 4 is added to eight times a number,we obtain 60.Find the number.	2
10)	Find the product of $11a(2b^2-\frac{3}{11}a^2b^3)$ and then evaluate **a=1,b= -1**	2
	Section -C	
11)	Draw a Tetrahedron. How many faces, Edges and vertices of a tetrahedron have .and also write the shape of its faces?	3
12)	**Solve it: $\frac{x}{2}$ -3= 5+$\frac{x}{3}$ and also check the answer.**	3
13)	(i) Draw a rectangle. Also draw the line of symmetry.. (ii) Write two English alphabets having two lines of symmetry.	3
14	Find the product **of $(3x^2+5xy-7)$ (x+5y)** and verify the result if **x=2, y= -1.**	3
15)	The length of a rectangle is 6 cm more than its breadth. If the perimeter is 48 cm. find the dimensions of the rectangle.	3

Time: 1 hr 20 min.   **M.M.:30**

General Instructions:- All questions are compulsory.

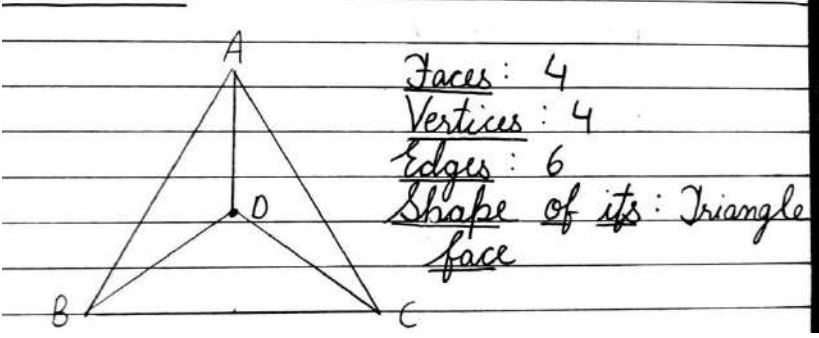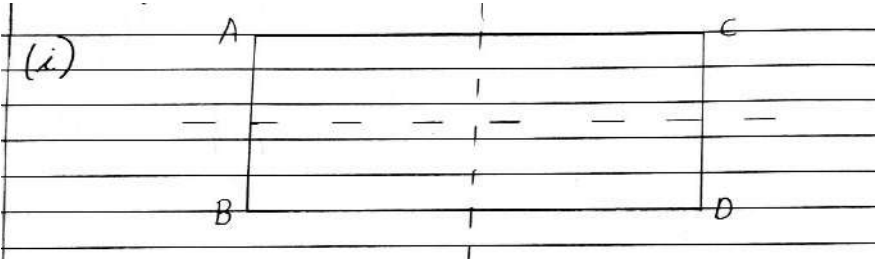| Q.No.	Questions	Marks
	Section -A	
1)	A Circle has (a) 3 lines of symmetry (b) 1 line of symmetry (c) 2 lines of symmetry (d) Infinite many lines of symmetry	1
2)	$9x^2y^2z + 3xy^2z$ is a. (a) Monomial (b) Binomial (c) Trinomial (d) Equation	1
3)	$a + a + a + a = $ ------- (a) a^4 (b) $4a$ (c) a (d) $4a^4$	1
4)	The H.C.F of $25xy^2$ and $15xy^2z$ is. (a) $5xy^2$ (b) $10x^2y$ (c) $5xyz$ (d) $10x^2yz$	1

5)	**Assertion: A Square pyramid has 5 faces.**
	 Reason: A Square pyramid has one square base and 4 triangle faces.
	    (a) Both assertion and reason are correct and Reason is the correct explanation for assertion.
	    (b) Both assertion and reason are correct and Reason is not the correct explanation for assertion.
	    (c) Assertion is true but reason is false.
	    (d) Both assertion and reason are false.
		1

	Section -B	
6)	When 9 is subtracted from five times a number the result is 71. Find the number	2
7)	Find the product of $(5x^2) (12x^2y) (\frac{3}{20} xy^2)$ and then evaluate x=1,y=2	2
8)	If $4x-3 = 21$. Find the value of $2x-5$.	2
9)	Factories: $x^2 + 3yz + 3xz + xy$	2
10)	lines l and M are the lines of symmetry of the line segment XY and YZ respectively. If XA=2.5cm and YZ=4cm. find AY and BZ. 	2
	Section -C	
11)	Find the product of $(3x^2+5xy-7) (x+5y)$ and verify the result if **x = 2, y = -1.**	3
12)	(i) Draw a Square and draw its line of symmetry. (ii) Write two letters of English alphabet having One lines of symmetry	3
13)	Solve it: $2x - \frac{1}{3} = \frac{1}{5} - x$ and also check the answer.	3
14)	The length of a rectangle is 10 cm more than its breadth. If the perimeter is 100 cm. Find the dimensions of rectangle.	3
15)	Draw a Cuboid. How many faces, edges and vertices of a cuboid have? What is the shape of its faces?	3
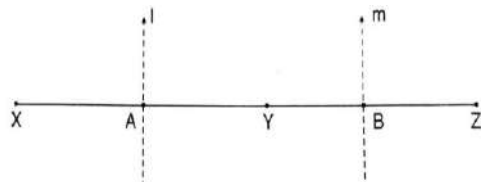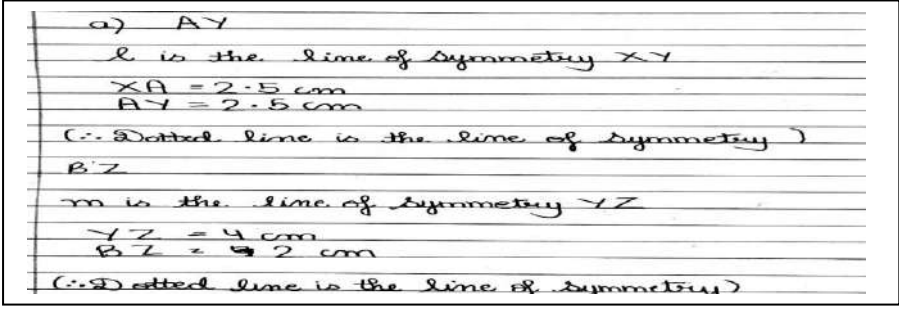
Q.No.	Questions	Marks
1)	(b) 10	**1**
2)	(c) 4xy	**1**
3)	(b) 1	**1**
4)	(a) Monomial	
5)	(a) Both assertion and reason are true and reason is the correct explanation of assertion.	**1**
6)	$4x = 21+3$ $4x = 24$ $X = 24/4$ $X = 6$ $2x-5 = 2(6)-5$ $\quad = 12-5$ $\quad = 7$	**1+1**
7)	$= a^2+2ac+2bc+ab$ $= a(a+2c)+b(a+2c)$ $=(a+2c)\ (a+b)$	**1 ½** **½**
8)		**½ +1+ ½ (For reason)**
9)	Let the number= x A.T.Q $8x+4 = 60$ $8x = 60-4$ $8x = 56$ $x = 56/8$ $x=7$	**½** **½** **½** **½**
10)		**1+1**

11)	Faces: 4 Vertices: 4 Edges: 6 Shape of its face: Triangle	1+ ½ ×4=2
12)	(12). $\frac{x}{2} - 3 = 5 + \frac{x}{3}$ $\frac{x}{2} - \frac{x}{3} = 6 + 3$ $\frac{3x - 2x}{6} = 8$ $\frac{1x}{6} = 8$ $x = 8 \times 6$ $x = 48$ $\underline{L \cdot H \cdot S}$ $\underline{R \cdot H \cdot S}$ Put $x = (48)$ $= \frac{48}{2} - 3$ $5 + \frac{48}{3}$ $= \frac{48}{2} - 6$ $\frac{15 + 48}{3}$ $= \frac{48}{2}^{21}$ $= \frac{63}{3}^{21}$ 21 21 $L \cdot H \cdot S = R \cdot H \cdot S$ Hence verified	1 ½ + 1 ½
13)	(i) Rectangle = 2 lines of symmetry. (ii) $\ast$, $\oplus$, H X, O, H have two lines of symmetry	2+1

14)		
	14) $(3x^2 + 5xy - 7)(x + 5y)$ $3x^2(x+5y) + 5xy(x+5y) - 7(x+5y)$ $= 3x^3 + 15x^2y + 5x^2y + 25xy^2 - 7x - 35y$ $= 3x^3 + 20x^2y + 25xy^2 - 7x - 35y$ verify $\rightarrow x = 2, y = -1$ **LHS** $(3x^2 + 5x2x - 1 - 7)$ $(2 + 5x - 1)$ $[3x4 + (-10) - 7]$ $2 + (-5)$ $= (12 - 10 - 7)(2 - 5)$ $= (12 - 17)(2 - 5)$ $= (-5) \times (-3)$ $= 15$ **RHS** $(3 \times 2^3) + (20 \times 2^2 \times -1) +$ $(25 \times 2 \times -1^2) - (7 \times 2)$ $- (35 \times -1)$ $= 24 + (-80) + 50 - 14$ $- (-35)$ $= 24 - 80 + 50 - 14 +$ $35 \quad 109 - 94$ LHS = RHS $\quad 15$ Hence verified!	!+1+1
15)	Let the Breadth = x cm Length = $x + 6$ cm Perimeter of rectangle = $2(l+b)$ A.T.Q $2(x + 6 + x) = 48$ $2(2x + 6) = 48$ $4x + 12 = 48$ $4x = 48 - 12$ $4x = 36$ $x = \dfrac{36}{4} \quad 9$ $x = 9$ $\therefore$ Breadth = 9 cm Length = $9 + 6$ $= 15$ cm.	1 1 ½ ½

Q.No.	Questions	Marks
1)	(d) Infinite many lines of symmetry	**1**
2)	(b) Binomial	**1**
3)	(b) 4a	**1**
4)	(a) $5xy^2$	
5)	(a) Both assertion and reason are true and reason is the correct explanation of assertion.	**1**
6)	Let the number= x A.T.Q 5x-9= 71 5x= 71+9 5x= 80 x = 80/5 x=16 So, the number=16	½ ½ ½ ½
7)	$= \left(5 \times \overset{3}{\underset{\underset{4}{20}}{12}} \times \frac{3}{20}\right) (x^2 \times x^2 \times x)(y \times y^2)$ $= 9\, x^5 y^3$ Evaluate $9x^5 y^3 = 9(1)^5 (2)^3$ $= 9(1)(8)$ $= 72$	1 1

8)	4x= 21+3
	 4x= 24
	 x=24/4 =6
	 2x-5= 2(6)-5
	        = 12-5
	        = 7
		1
		
		 1

9)	$x^2+ 3yz+ 3xz +xy$ $= x^2 +xy + 3yz + 3xz$ $= x(x+y) + 3z(x+y)$ $= (x+y)(x+3z) \rightarrow$	1 ½ ½
10)	a) AY ℓ is the line of symmetry XY XA =2·5 cm AY = 2·5 cm (∵ Dotted line is the line of symmetry) BZ m is the line of symmetry YZ YZ = 4 cm BZ = 2 cm (∵ Dotted line is the line of symmetry)	½ +1+ ½ (For reason)

11) | 1+1+1

$14)$ $(3x^2 + 5xy - 7)(x + 5y)$

$3x^2(x+5y) + 5xy(x+5y) - 7(x+5y)$

$= 3x^3 + 15x^2y + 5x^2y + 25xy^2 - 7x - 35y$
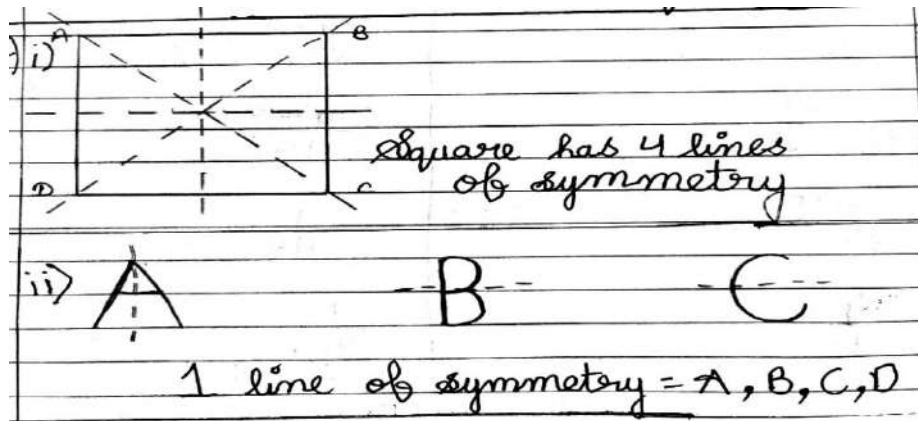
$= 3x^3 + 20x^2y + 25xy^2 - 7x - 35y$

verify → $x = 2$, $y = -1$

LHS

$(3 \times 2^2 + 5 \times 2 \times -1 - 7)$
$(2 + 5 \times -1)$
$[3 \times 4 + (-10) - 7]$
$2 + (-5)$
$= (12 - 10 - 7)(2 - 5)$
$= (12 - 17)(2 - 5)$
$= (-5) \times (-3)$
$= 15$

RHS

$(3 \times 2^3) + (20 \times 2^2 \times -1) +$
$(25 \times 2 \times -1^2) - (7 \times 2)$
$- (35 \times -1)$
$= 24 + (-80) + 50 - 14$
$- (-35)$
$= 24 - 80 + 50 - 14 +$
35
$= 109 - 94$

LHS = RHS   15

Hence Verified!

---

12) | 2+1

i)

Square has 4 lines of symmetry

ii) A   B   C

1 line of symmetry = A, B, C, D

---

13) | 1½+ 1½

Q.13) $2x - \frac{1}{3} = \frac{1}{5} - x$

$2x + x = \frac{1}{5} + \frac{1}{3}$
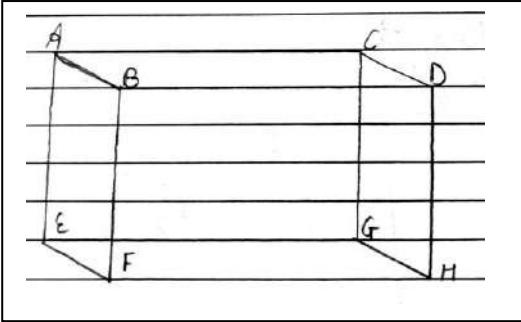
$3x = \frac{3+5}{15}$

$\Rightarrow 3x = \frac{8}{15}$

$\Rightarrow x = \frac{8}{15} \times \frac{1}{3}$

Put $x = \frac{8}{45}$ in eq.

L.H.S

$2\left(\frac{8}{45}\right) - \frac{1}{3}$

$\frac{16}{45} - \frac{1}{3}$

$\frac{16 - 15}{45}$

$\frac{1}{45}$

R.H.S

$\frac{1}{5} - \frac{8}{45}$

$\frac{9 - 8}{45}$

$\frac{1}{45}$

$= \frac{1}{45}$

L.H.S = R.H.S
Hence Verified

14)	Let the breadth of rectangle = x cm length = x + 10 cm Perimeter = 2(l + b) A.T.Q $2(x + x + 10) = 100$ cm $2x + 2x + 20 = 100$ cm $4x = 100 - 20$ $4x = 80$ $x = \dfrac{80}{4}$ $x = 20$ ∴ breadth of rectangle = 20 cm length of rectangle = 20 + 10 = 30 cm	1 1 ½ ½
15)	Faces : 6 Edges : 12 Vertices : 8 Shape of its faces: Rectangular		1+ ½×4=3