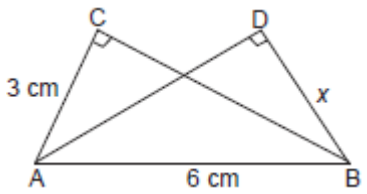
AMITY INTERNATIONAL SCHOOL
Sector - 46, Gurgaon

Class- IX **Mock Test** **Subject – Math**

Time – 3Hr **Marks- 80**

	General Instructions: 1. All questions are Compulsory. 2. Section – A has 20 questions carries 1 mark each. Section – B has 7 questions carries 2 marks each. Section – C has 6 questions carries 3 marks each. Section – D has 7 questions carries 4 marks each.	
	SET – A (1 Mark Questions)	
Q 1	Simplify $\sqrt{72} + \sqrt{800} - \sqrt{18}$.	1
2	Linear equation x – 2 = 0 is parallel to which axis ?	1
3	$\triangle$ ACB and $\triangle$ ADB are two congruent right-angled triangles on the same base AB (= 6 cm) as shown in figure. If AC = 3 cm, find BD. 	1
4	Simplify $3^{\frac{2}{3}} . 3^{\frac{1}{5}}$.	1
5	Write the coefficients of x^2 : $\sqrt{2}x^2 + 4y + 5$	1
6	Check whether 3.142678 is a rational or an irrational number.	1
7	Find the value of $\frac{2^0 + 7^0}{5^0}$.	1
8	How many linear equations in x and y can be satisfied by x = 1 and y = 2?	1
9	How many common points do two distinct lines have?	1
10	Find the value of the polynomial $y^2 - 5y + 6$ at $y = 0$	1
11	Rationalise the denominator of $\frac{1}{\sqrt{5}}$.	1
12	In which quadrant, the points P(2, – 3) and Q(– 3, 2) lie?	1
13	Write the equation of a line which is parallel to x-axis and is at a distance of 2 units from the origin.	1
14	Evaluate $\frac{8^7}{-8^{-7}}$.	1
15	In the given figure, if AOB is a line then find the measure of $\angle$BOC .	1

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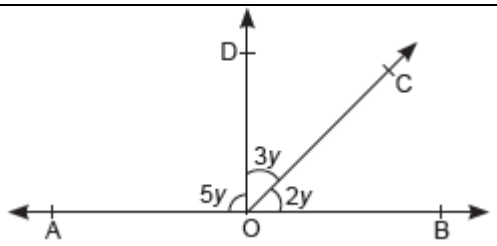
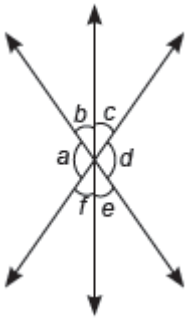
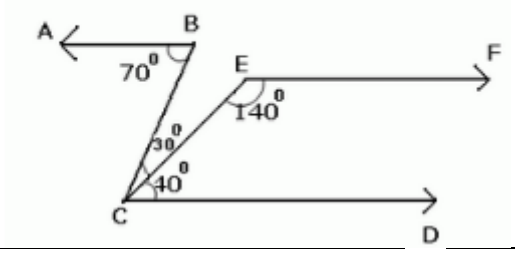
		
16	Let ∠A = ∠B and ∠B = ∠C. State the Euclid's axiom according to which relation between ∠A and ∠C is established?	1
17	State Euclid's 5th postulate.	1
18	Check whether the following statements are true or not?  (I) $a + b = d + c$ (II) $a + c + e = 180°$ (III) $b + f = c + e$	1
19	In two triangles ABC and DEF, AB = DE, BC = DF and AC = EF, then (a) ΔABC ≅ ΔDEF (b) ΔABC ≅ ΔEFD (c) ΔABC ≅ ΔFDE (d) none of these	1
20	If a point lies on the *y*-axis, then what will be its abscissa?	1
	Section – B (2 Marks Questions)	
21	In the figure, show that AB || EF. 	2
22	Express $18.\overline{48}$ in the form of $\frac{p}{q}$, where p and q are integers and $q \neq 0$.	2

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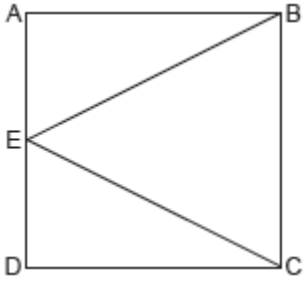
23	In the given figure, ABCD is a square. E is the mid-point of AD. BE and CE are joined. Prove that $\triangle$ BEC is an isosceles triangle. 	2
24	Find the value of k, if x = 2, y = 1 is a solution of the equation 2x + 3y = k.	2
25	Write the equation of the *x*-axis, the *y*-axis and the coordinates of the point where these two coordinate axes intersect each other.	2
26	By remainder theorem, find the remainder when $p(y)$ is divided by $g(y)$: $p(y) = 4y^3 - 12y^2 + 5y - 4$ and $g(y) = 2y - 1$	2
27	Solve the equation, $x - 10 = 25$ and state which axiom do you use here.	2
	Section – C (3 Marks Questions)	
28	$\frac{2-\sqrt{5}}{2+3\sqrt{5}} = \sqrt{5}\,a + b.$ Find the value of *a* and *b*, if	3
29	If $2x + 3y = 12$ and $xy = 6$, find the value of $8x^3 + 27y^3$.	3
30	The taxi fare in a city is as follows: For the first kilometre, the fare is ₹ 8 and for the subsequent distance it is ₹ 5 per km. Taking the distance covered as x km and total fare as ₹ y, write a linear equation for this information, and draw its graph.	3
31	Point A is chosen on y-axis in such a way that ΔABC is an equilateral triangle. The base BC of the ΔABC is shown in the figure. Find the coordinates of (i) the mid-point of BC (ii) the area of the triangle (iii) the vertices of a triangle.	3

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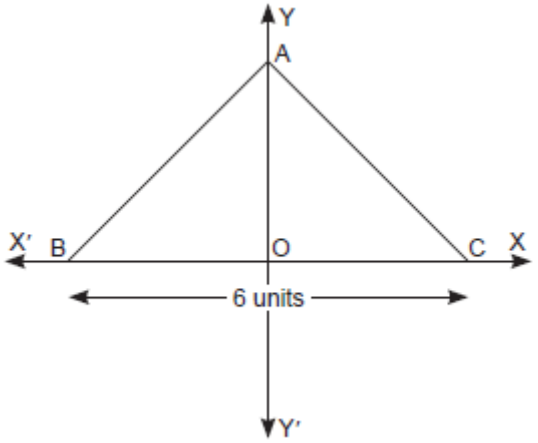
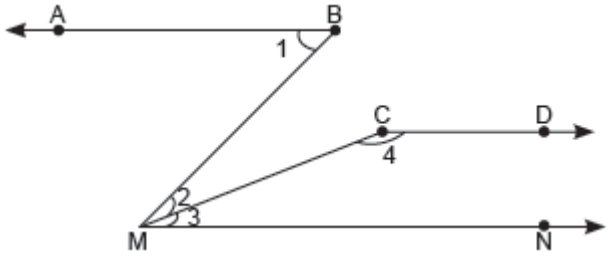
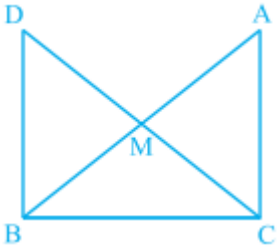
		
32	In the given figure, ∠1 = 55°, ∠2 = 20°, ∠3 = 35° and ∠4 = 145°. Prove that AB || CD. 	3
33	In right triangle ABC, right angled at C, M is the mid-point of hypotenuse AB. C is joined to M and produced to a point D such that DM = CM. Point D is joined to point B. Show that: (i) Δ AMC ≅ Δ BMD (ii) (ii) ∠ DBC is a right angle. (iii) (iii) Δ DBC ≅ Δ ACB 	3
34	Factorise: $x^3 - 6x^2 + 11x - 6$	4
35	In the given figure, bisectors of the exterior angles B and C formed by producing sides AB and AC of ΔABC intersect each other at the point O. Prove that ∠BOC = $90° - \frac{1}{2}$∠A.	4

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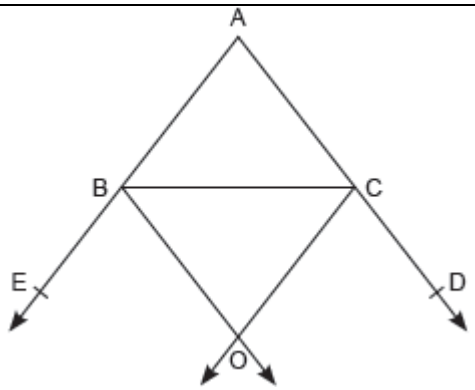
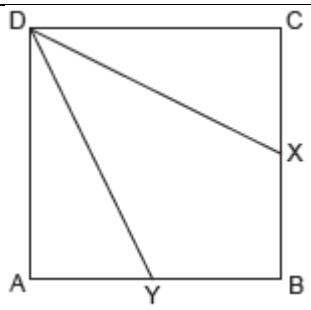
		
36	If $x + \frac{1}{x} = \sqrt{3}$, find the value of $x^3 + \frac{1}{x^3}$.	4
37	ABCD is a square and BX = BY. Prove that (i) $\Delta DCX \cong \Delta DAY$ (ii) DY = DX (iii) $\angle DXC = \angle DYA$ 	4
38	State and prove ASA congruence rule of triangles.	4
39	**Read the Source/Text given below and answer any four questions:** Ankur and Ranjan start a new business together. The amount invested by both partners together is given by the polynomial $p(x) = 4x^2 + 12x + 5$, which is the product of their individual shares. **Answer the following questions:** 1. **Coefficient of x^2 in the given polynomial is** (a) 2 (b) 3 (c) 4 (d) 12 2. **Total amount invested by both, if x = 1000 is** (a) 301506 (b)370561 (c) 4012005 (d)490621 3. **The shares of Ankur and Ranjan invested individually are** (a) (2x + 1),(2x + 5)(b) (2x + 3),(x + 1) (c) (x + 1),(x + 3) (d) None of these	4

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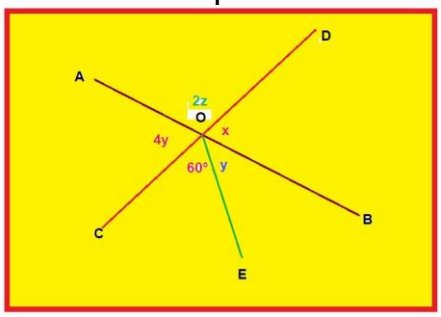
	4. Name the polynomial of amounts invested by each partner. (a) Cubic (b) Quadratic (c) Linear (d) None of these **5. Find the value of x, if the total amount invested is equal to 0.** (a) –1/2 (b) –5/2 (c) Both (a) and (b) (d) None of these	
40	**Read the Source/Text given below and answer any four questions:** Maths teacher draws a straight line AB shown on the blackboard as per the following figure.  1. Now he told Raju to draw another line CD as in the figure 2. The teacher told Ajay to mark ∠AOD as 2z 3. Suraj was told to mark ∠AOC as 4y 4. Clive Made and angle ∠COE = 60° 5. Peter marked ∠BOE and ∠BOD as y and x respectively **Answer the following questions:** 1. What is the value of x? 1. 48° 2. 96° 3. 100° 4. 120° 2. What is the value of y? 1. 48° 2. 96° 3. 100° 4. 24° 3. What is the value of z?	4

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	1. 48° 2. 96° 3. 42° 4. 120° 4. What should be the value of x + 2z? 1. 148° 2. 360° 3. 180° 4. 120° 5. What is the relation between y and z? 1. 2y + z = 90° 2. 2y + z = 180° 3. 4y + 2z = 120° 4. y = 2z	