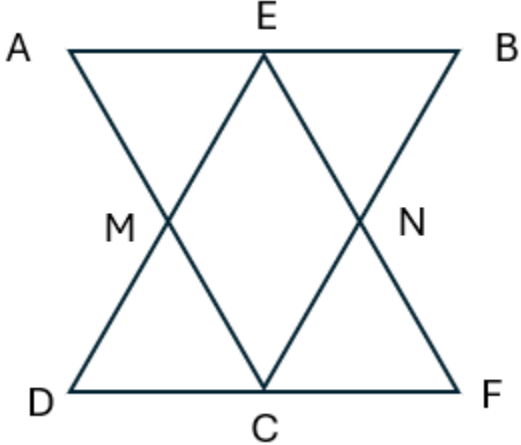
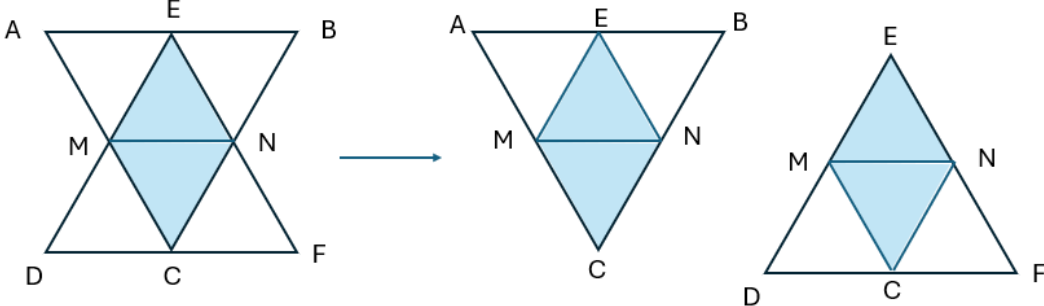
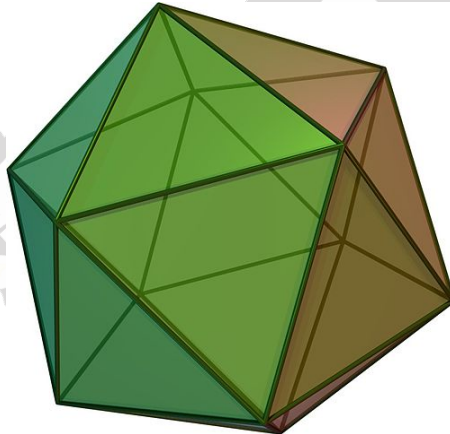


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Q.No	Numerical Ability : Area		Type :MCQ	
1	Shown below are two equilateral triangles ABC & DEF of side 10 units each. What is the approximate area of the rhombus MENC where M & N are the midpoints			
				
Options	A. 45	B. 75	C. 90	D. 60
Correct Ans	C			
Explanation	If we join M and N, we can see that each equilateral triangle is divided into 4 smaller equal triangles and rhombus MENC = 2 such smaller triangles			
				
Area of equilateral triangle ABC=Area of equilateral triangle DEF				

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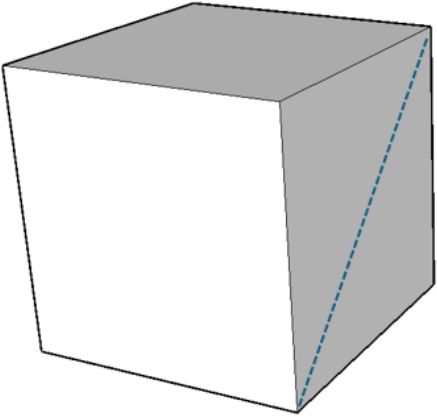
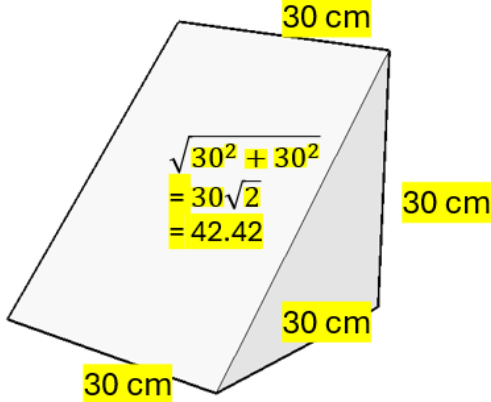
	$= \sqrt{3}/4 \times \text{side} \times \text{side} = \sqrt{3}/4 \times 10 \times 10 = 25 \times 1.732$ $\text{Area of 1 small triangle} = 25/4 \times 1.732$ $\text{Area of 2 small triangles} = \text{Area of rhombus MENC} = 25/4 \times 1.732 \times 2 = 86.6 \approx 90$
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Q.No	Numerical Ability: Polyhedrons		Type :MCQ	
2	How many equilateral triangles are there in an “icosahedron” ?			
Options	A. 22	B. 20	C. 18	D. 24
Correct Ans	B. 20			
Explanation	An icosahedron is a platonic solid with 20 faces, 30 edges, and 12 vertices. Each face is an equilateral triangle <i>Platonic solids are five convex, regular polyhedra with identical faces made of congruent regular polygons and the same number of faces meeting at each vertex. These five shapes are the tetrahedron (4 faces), cube (6 faces), octahedron (8 faces), dodecahedron (12 faces), and icosahedron (20 faces).</i> 			

Q.No	Numerical Ability : Percentage		Type :MCQ	
3	The length of a towel is reduced by 20% and its breadth is reduced by 10%. What is the percentage decrease in its area?			
Options	A. 26 %	B. 27 %	C. 28 %	D. 30 %

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Correct Ans	C. 28 %
Explanation	All successive change (increase/decrease) in percentage can be represented as a single percentage change $= [\pm a \pm b + (\pm a)(\pm b)/100] \%$ Percentage change = $(-20 - 10 + 200/10)\% = (-30 + 2)\% = -28 \%$ (-) indicates decrease So, its 28 % decrease

Q.No	Numerical Ability : Surface Area			Type :MCQ
4	A cube of side 30 cm is cut along a diagonal plane to form two identical triangular prisms. What is the total surface area of one such prism?			
Options	A. 2700 sq cm	B. 1272.6 sq cm	C. 2545.2 sq cm	D. 3972.6 sq cm
Correct Ans	D. 3972.6 sq cm			
Explanation	  Surface area of one prism = (Original surface area / 2) + Area of cut face $= 6 \times 30 \times 30 / 2 + 30 \times 42.42 = 3972.6 \text{ sq cm}$			

Q.No	Numerical Ability : Area	Type :MCQ
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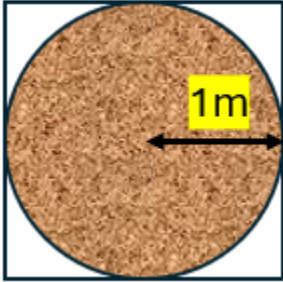
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5	A square tile has a side length of 30 cm. If a circular design of diameter 20 cm is cut from the tile, what is the area of the remaining tile in sq cm?			
Options	A. 314	B. 356	C. 586	D. Can not be determined
Correct Ans	C. 586			
Explanation	Area of square tile = $30 \times 30 = 900$ sq cm Radius of circular design = $20/2 = 10$ Area of design = $3.14 \times 10 \times 10 = 314$ sq cm Area of remaining tile = $900 - 314 = 586$ sq cm			

Q.No	Numerical Ability : Basics of numbers		Type :MCQ	
6	How many prime numbers between 51 and 105 are divisible exactly by 3?			
Options	A. 3	B. 2	C. 1	D. 0
Correct Ans	A. 0			
Explanation	Prime numbers are whole numbers greater than 1 that have exactly two factors: 1 and themselves.			

Q.No	Numerical Ability : Length		Type :MCQ	
7	A circular rug of radius 1 m is on the floor of a room such that it touches all four walls. What is the length of the room ?			
Options	A. 1 m	B. 2 m	C. 1.404 m	D. 2.8 m
Correct Ans	B. 2m			

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Explanation	 Length of the room = Diameter of the rug = 2m
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Q.No	Numerical Ability : Surface Area		Type :MCQ	
8	Find curved surfaces area of a cone whose radius is 3 units and height is 4 units			
Options	A. 28.26	B. 47.1	C. 75.36	D. 37.68
Correct Ans	B. 47.1			
Explanation	Radius r = 3 Height h = 4 Slant height l = $\sqrt{(h^2+r^2)} = \sqrt{(9+16)} = 5$ Curved surface area = $\pi r l = 3.14 \times 3 \times 5 = 47.1$ sq units			

Q.No	Numerical Ability : Problem on ages		Type :MCQ	
9	Five years ago, the ages of Ajay and Beni were in the ratio 2:3. Five years from now, their ages will be in the ratio 3:4. Find the present age of Ajay			
Options	A. 35 years	B. 25 years	C. 20 years	D. 30 years
Correct Ans	B. 25 years			

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Explanation	Let their ages 5 years ago = $2x$ & $3x$ Then Ajay's present age = $2x + 5$ Beni's present age = $3x + 5$ 5 years hence their ages = $2x + 5 + 5$, $3x + 5 + 5$ Given that $2x + 10 : 3x + 10 = 3 : 4$ $8x + 40 = 9x + 30$ $x = 10$ Ajay's present age = $2 \times 10 + 5 = 25$ years
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Q.No	Numerical Ability : Basics of Number		Type :MCQ	
10	Which of the following number should be added to 399 to make it a perfect square			
Options	A. 5	B. 41	C. 43	D. 85
Correct Ans	D. 85			
Explanation	399 + 85 = 484 = 22 X 22			

Q.No	Numerical Ability : Problem on ages		Type :MCQ	
11	In a family of three generations, the age gap between fathers and their children is 30 years or above. In the youngest generation, there are two siblings with a 2-year age gap. If the youngest child is 6 years old, what is the age of the youngest father?			
Options	A. 34 years	B. 36 years	C. 38 years	D. 40 years
Correct Ans	C. 38 years			
Explanation	Youngest child = 6 yrs old There are 2 siblings So, age of elder sibling of the youngest child = $6 + 2 = 8$ years Age of the youngest father = $8 + 30 = 38$ years			

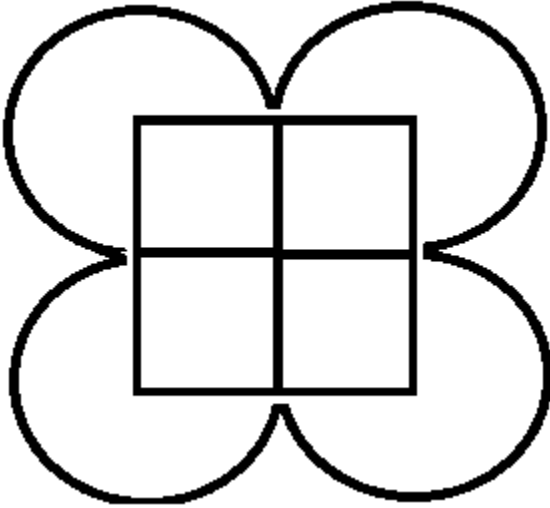
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Q.No	Numerical Ability : Simple equations of x,y			Type :MCQ
12	If $(3x+3y) / 6 = 2$, what is $x+y=?$			
Options	A. 12	B. 3	C. 2/3	D. 4
Correct Ans	D. 4			
Explanation	$(3x+3y) / 6 = 2$ $3x + 3y = 2 \times 6 = 12$ $x + y = 12/3 = 4$			

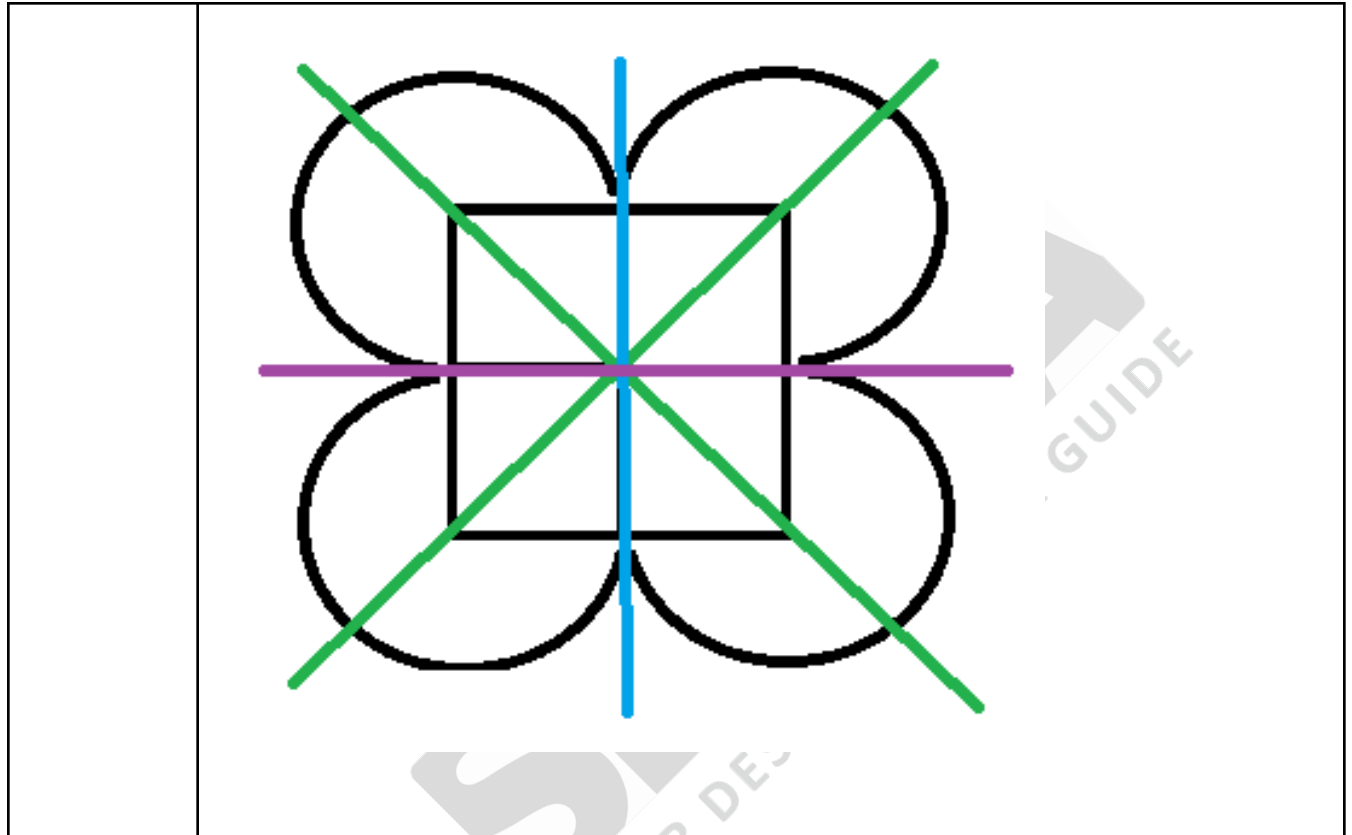
Q.No	Numerical Ability : Ratio & Proportions			Type :MCQ
13	A container has 60L liquid in which the ratio of milk to water is 2:1, how much water is needed to add to make ratio 1:2?			
Options	A. 40 l	B. 60 l	C. 80 l	D. Data inadequate
Correct Ans	B. 60 l			
Explanation	In 60 l $\text{Milk} = 2/3 \times 60 = 40 \text{ l}$ $\text{Water} = 1/3 \times 60 = 20 \text{ l}$ Let water added = x l Now Milk = 40 l Water = $20 + x \text{ l}$ Their ratio now = 1:2 $\rightarrow 40 : (20 + x) = 1 : 2$ $\rightarrow 40 \times 2 = 20 + x$ $\rightarrow x = 80 - 20 = 60 \text{ l}$			

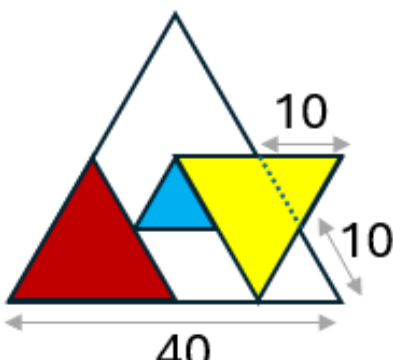
Q.No	Numerical Ability :Axis of symmetry			Type :MCQ
14	How many Axis can be made in this image			

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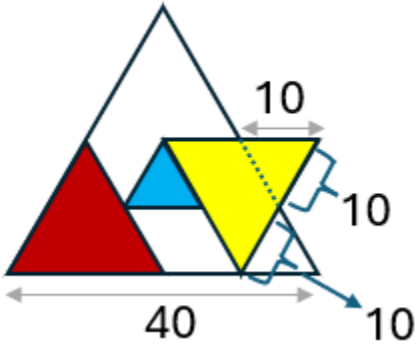
				
Options	A.3	B. 2	C. 1	D. 4
Correct Ans	D. 4			
Explanation	• A vertical axis through the center divides it into left-right mirror halves. • A horizontal axis through the center divides it into top-bottom mirror halves. • Two diagonal axes (from corner to corner of the square) also work because both the inner square and the four identical outer curves are symmetric across these diagonals. So in total: Vertical + Horizontal + 2 Diagonals = 4 axes of symmetry.			

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Q.No	Numerical Ability :Area	Type :MCQ
15	What is the area of the yellow triangle? All the triangles are equilateral triangles. 	

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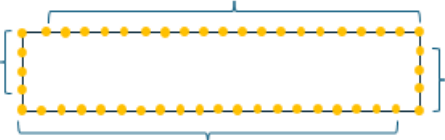
Options	A. 86.6	B. 230.94	C. 173.2	D. 100
Correct Ans	C. 173.2			
Explanation	 Side of yellow equilateral triangle = $10 + 10 = 20$ Yellow triangle area = $\frac{\sqrt{3}}{4} \times \text{Side}^2 = \frac{\sqrt{3}}{4} \times 20 \times 20 = 173.2 \text{ sq unit}$			

Q.No	Numerical Ability : Simple equations of x,y		Type :MCQ	
16	If $(3x+3y) / 6 =2$, what is $x+y=?$			
Options	A. 4	B. 12	C. 2/3	D. 3
Correct Ans	A. 4			
Explanation	$(3x+3y) / 6 =2$ $3x + 3y = 2 \times 6 = 12$ $x + y = 12/3 = 4$			

Q.No	Numerical Ability :Problem on ages	Type :MCQ
17	In a family of three generations, the age gap between fathers and their children is 30 years or above. The age difference between husband and wife is 3 years . In the youngest generation,	

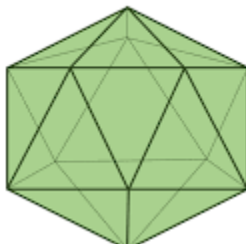
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	there are two siblings with a 3-year age gap. If the youngest child is 6 years old, what is the age of the youngest mother?			
Options	A. 33 years	B. 36 years	C. 39 years	D. 30 years
Correct Ans	B. 36 years			
Explanation	Youngest child = 6 yrs old There are 2 siblings So, age of elder sibling of the youngest child = $6 + 3 = 9$ years Age of the youngest father = $9 + 30 = 39$ years Age of youngest mother = $39 - 3 = 36$ years			

Q.No	Numerical Ability :Perimeter		Type :MCQ	
18	You have a rectangular garden path 10 meters long and 5 meters wide. You want to place solar lights along the outer edge of the paths, with one light every 0.5 meter: How many lights do you need! A.48 B. 46 C.12 D.24			
Options	A. 48	B. 46	C. 12	D. 24
Correct Ans	A. 48			
Explanation	Number of lights = 10 / .5 = 20 Number of lights = 2 / .5 = 4  Number of lights = 2 / .5 = 4 Number of lights = 10 / .5 = 20			

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	Total lights = $20 \times 2 + 4 \times 2 = 48$
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Q.No	Numerical Ability :Polyhedron		Type :MCQ	
19	How many triangle icosahedrons have ?			
Options	A. 15	B. 18	C. 20	D. 22
Correct Ans	C. 20			
Explanation	<i>Icosahedron</i>  An icosahedron is a 3D geometric shape having exactly 20 triangular faces.			

Q.No	Numerical Ability :AP & GP		Type :MCQ	
20	A boy gave a bundle of Rs.100 notes to a guy. The serial number of notes are from hjc12639840 to hjc12639890. What is the total amount given by the boy?			
Options	A. Rs 4900	B. Rs 5000	C. Rs 5100	D. Rs 6000
Correct Ans	C.5100			
Explanation	12639890 – 12639840 = 50 No of notes = 50 + 1=51 (including the first one) Total amount = 51 X 100 = Rs 5100			

Q.No	Numerical Ability :Problem on ages	Type :MCQ
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21	The present ages of Tina and her brother are in the ratio 4:6. After 9 years, the ratio of their ages will become 7:9. What is the present age of Tina?			
Options	A. 18 years	B. 12 years	C. 21 years	D. 27 years
Correct Ans	B. 12 years			
Explanation	Let the present ages of Tina and her brother be $4x$ and $6x$. After 9 years: Tina's age = $4x+9$ Brother's age = $6x+9$ According to the question, $(4x+9)/(6x+9)=7/9$ Cross-multiplying: $9(4x+9)=7(6x+9)$ $36x+81=42x+63$ $81-63=42x-36x$ $18=6x$ $x=3$ Therefore, Tina's present age: $4x=4\times 3=12$			

Q.No	Numerical Ability :Polyhedron		Type :MCQ	
22	How many faces does a hexahedron have?			
Options	A.4	B. 6	C. 7	D. 8
Correct Ans	B. 6			
Explanation	A Hexahedron is a three-dimensional solid shape having six faces. A cube is the most common example of a hexahedron. The term comes from Greek words: "hexa" meaning six and "hedron" meaning face.			

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Q.No	Numerical Ability :LCM & HCF		Type :MCQ	
23	How many integers less than 80 are multiples of both 5 and 6?			
Options	A. 2	B. 4	C. 6	D. 8
Correct Ans	A. 2			
Explanation	LCM of 5 and 6 = 30 Multiple of 30 which are less than 80 = 30 & 60			

Q.No	Numerical Ability : Area		Type :MCQ	
24	A square of side length 15 units is divided into four triangles by drawing both diagonals. One triangular region is shaded. What is the area of the shaded region?			
Options	A .28.125 sq.units	B. 56.25 sq.units	C. 112.5 sq.units	D. 225 sq.units
Correct Ans	B. 56.25 sq.units			
Explanation	Area of the square = $15 \times 15 = 225$ sq.units. The diagonals divide the square into 4 equal triangles. So, area of one shaded triangle = $225 / 4 = 56.25$ sq.units.			

Q.No	Numerical Ability : Work & Time		Type :MCQ	
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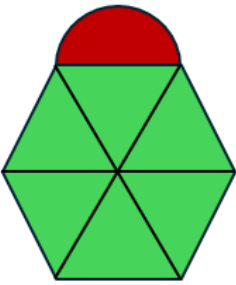
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25	2 boys can do a piece of work in 10 days; 3 girls can do the same work in 5 days. In how many days will 1 boy and 1 girl together complete it?			
Options	A. 8 days	B. 60/7 days	C. 15/4 days	D. Data insufficient
Correct Ans				
Explanation	2 boys can do in 1 day = $1/10$ work 1 boy can do in 1 day = $1/20$ work 3 girls can do in 1 day = $1/5$ work 1 girl can do in 1 day = $1/15$ work 1 boy & 1 girl can do in 1 day = $1/20 + 1/15 = 7/60$ work 1 boy & 1 girl can complete the work in 60/7 days			

Q.No	Numerical Ability: Profit & Loss		Type :MCQ	
26	A shopkeeper sells an item at a profit of 20%. If the cost of the item increases by 25% while the selling price remains unchanged, what will be the new profit or loss percentage?			
Options	A. 5 % Loss	B. 5 % profit	C. 4 % Loss	D. 4 % Profit
Correct Ans	C. 4 % Loss			
Explanation	Let CP = Rs 100 Profit = 20 % SP = 100 +20 = Rs 120 Now cost increases by 25 % New CP = 100 + 25 = Rs 125 SP is same Rs 120 Loss = 125 – 120 = Rs 5 Loss % = 5/125 X 100 =4 %			

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Q.No	Numerical Ability : Problem on Ages		Type :MCQ	
27	Three years ago, the ratio of the ages of A and B was 3:7. Three years from now, the ratio of their ages will be 5:9. What will be the ratio of their ages 8 years from now?			
Options	A. 17 : 28	B. 23 : 35	C. 1: 2	D. 5 : 8
Correct Ans	D. 5 : 8			
Explanation	3 years ago, let their ages = $3x$ & $7x$ Their present ages = $3x + 3$, $7x + 3$ 3 years hence, their ages = $3x + 3 + 3$, $7x + 3 + 3$ Given that $3x + 6 : 7x + 6 = 5 : 9$ $27x + 54 = 35x + 30$ $8x = 24$ $x = 3$ Their present ages = $3 \times 3 + 3 = 12$ years & $7 \times 3 + 3 = 24$ years Ratio of their ages 8 years from now $12 + 8 : 24 + 8 = 20 : 32 = 5 : 8$			

Q.No	Numerical Ability: Area	Type :MCQ
28	Shown below is a semi circle (shaded red) drawn on the side of a regular hexagon (shaded green)? Find the ratio of red and green area 	

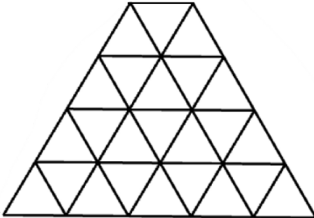
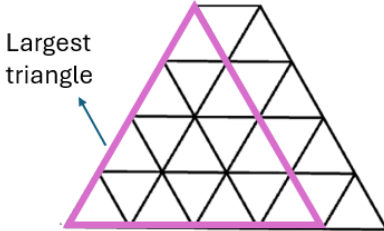
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Options	A. $11 : 42\sqrt{3}$	B. $22 : 7\sqrt{3}$	C. $42\sqrt{3} : 7$	D. $11 : 6\sqrt{3}$
Correct Ans	A. $11 : 42\sqrt{3}$			
Explanation	Let side of the hexagon = Diameter of the semicircle = $2a$ Red area = Area of semicircle = $\frac{\pi a^2}{2}$ Green area = Area of hexagon = $6 \times \frac{\sqrt{3}}{4} \times (2a)^2 = 6 \times \sqrt{3} a^2$ Their ratio = $\frac{\pi a^2}{2} : 6 \times \sqrt{3} a^2 = \pi : 12\sqrt{3} = 11 : 42\sqrt{3}$			

Q.No	Numerical Ability: Basics of numbers		Type :NCQ	
29	Find the sum of all factors of 12			
Options	A.	B.	C.	D.
Correct Ans	28			
Explanation	Factors of 12 = 1, 2, 3, 4, 6 & 12. Sum = 1 + 2+ 3+ 4 + 6 + 12 = 28			

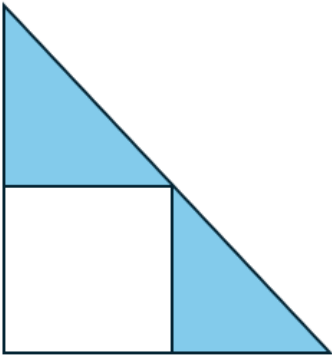
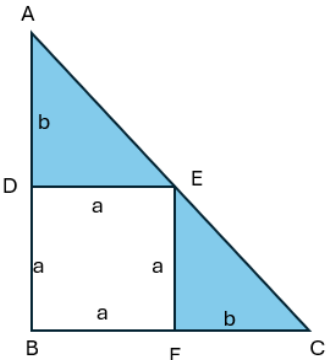
Q.No	Numerical Ability : Volume		Type :MCQ	
30	What is the volume of a rectangular pyramid of base 3 X 4 and height 5?			
Options	A. 60	B. 40	C. 30	D. 20
Correct Ans	D. 20			
Explanation	Volume = 1/3 X 3X4X5 = 20			

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Q.No	Numerical Ability : Area		Type :MCQ	
31	In the figure shown below , all the triangles are equilateral triangles. If the side of the smallest triangle is 10 units , what is the area of the largest triangle 			
Options	A. 346.4	B. 519.6	C. 866	D. 692.8
Correct Ans	D. 692.8			
Explanation	 Side of the largest triangle = $10 \times 4 = 40$ units Area of the largest triangle = $\frac{\sqrt{3}}{4} \times 40 \times 40 = 692.8$ sq units			

Q.No	Numerical Ability : Area	Type :MCQ
32	A square is inscribed in a right angled isosceles triangle. Find the ratio of area of white square to blue triangles in the figure.	

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Options	A. 1:1	B. 2:	C. 1:2	D.3:1
Correct Ans	A. 1:1			
Explanation	 $\triangle ADE$ will be similar to $\triangle EFC$ $AD/EF = DE/FC$ $b/a = a/b$ $a = b$ Area of blue triangles = $\frac{1}{2} \times ab + \frac{1}{2} \times ab = ab = a^2$ Area of square = $a \times a = a^2$ Their ratio = 1:1			

Q.No	Numerical Ability : Ratio & Proportion	Type :MCQ
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33	IF $P/Q = 4/5$ & $Q/R = 7/4$, then $P/R = ?$			
Options	A. $5/7$	B. $7/5$	C. $16/35$	D. $35/16$
Correct Ans	B. $7/5$			
Explanation	If we multiply both the equations $P/Q \times Q/R = 4/5 \times 7/4$ $P/R = 7/5$			

Q.No	Numerical Ability: Percentage		Type :MCQ	
34	The salaries A, B, and C are in the ratio 2: 3: 5. If there are increments of 15%, 10%, and 20% respectively in their salaries, then what will be the new ratio of their salaries?			
Options	A. 7 : 8 : 14	B. 23 : 33 : 60	C. 21 : 33 : 60	D. 23 : 33 : 63
Correct Ans	A. 23 : 33 : 60			
Explanation	Let their salaries be Rs 200, Rs 300, Rs 500 After increment A's salary = 200 + 15% of 200 = Rs 230 B's salary = 300 + 10 % of 300 = Rs 330 C's salary = 500 + 20% of 500 = Rs 600 New ratio = 230 : 330 : 600 = 23 : 33 : 60			

Q.No	Numerical Ability : Speed & Distance	Type :MCQ
35	A man covers a distance on a scooter. Had he moved 3kmph faster, he would have taken 40 min less. If he had moved 2kmph slower, he would have taken 40min more. The distance is	

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Options	A. 30 Km	B. 35 Km	C. 40 Km	D. Data insufficient
Correct Ans	E. 40 Km			
Explanation	Let the distance = D Km Speed = S Km/h Time = T Hr Then $D = S \times T$ When Speed = $S + 3$ Time is 40min = $40/60$ hr = $2/3$ hr less $D = (S + 3) \times (T - 2/3)$ $ST = ST + 3T - 2S/3 - 2$ (putting value of $D = ST$) $9T - 2S = 6$ ----eq1 When Speed = $S - 2$ Time is 40min = $40/60$ hr = $2/3$ hr more $D = (S - 2) \times (T + 2/3)$ $ST = ST - 2T + 2S/3 - 4/3$ (putting value of $D = ST$) $- 6T + 2S = 4$ ----eq2 Adding eq1 & eq2 $3T = 10$ $T = 10/3$ From eq 1 $9T - 2S = 6$ $30 - 2S = 6$ $S = 12$ Then Distance = $S \times T = 10/3 \times 12 = 40$ Km			

Q.No	Numerical Ability: Ratio & proportion		Type :MCQ	
36	A container contains 60L liquid in which the ratio of milk to water is 2:1, how much water is needed to add to make ratio 1:2?			
Options	A. 40 l	B. 60 l	C. 80 l	D. Can not be

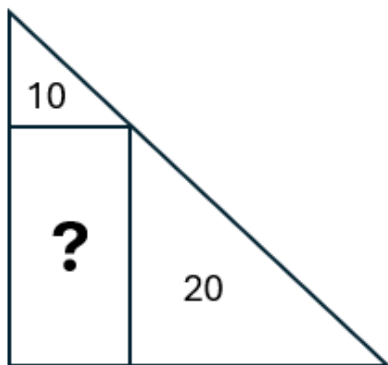
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				determined
Correct Ans	B. 60 l			
Explanation	In 60 l Milk = $\frac{2}{3} \times 60 = 40$ l Water = $\frac{1}{3} \times 60 = 20$ l Let water added = x l Now Milk = 40 l Water = $20 + x$ l Their ratio now = 1:2 $\rightarrow 40 : (20 + x) = 1 : 2$ $\rightarrow 40 \times 2 = 20 + x$ $\rightarrow x = 80 - 20 = 60$ l			

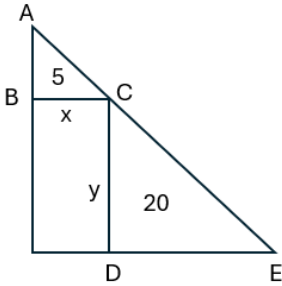
Q.No	Numerical Ability : Problem on ages		Type :MCQ	
37	There are three generations present in a family. Each family has two children of different genders with an age gap of two years and the oldest child always being a daughter. The youngest is currently six years old, and the father is always 30 years older than their sons. What is the age of the eldest father in the family.			
Options	A. 60 Years	B. 63 Years	C. 36 Years	D. 66 Years
Correct Ans	D. 66 Years			
Explanation	Youngest will be a son Youngest is currently six years old So, his fathers age = $30 + 6 = 36$ years Youngest member's grandfather will be the eldest father So eldest father's age = $36 + 30 = 66$ years			

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Q.No	Numerical Ability: Volume		Type :MCQ	
38	A cube has a total surface area of 216 sq units. It is melted and recast into a sphere. What will be the volume of the sphere?			
Options	A. 108	B. 216	C. 343	D. 339.42
Correct Ans	B. 216			
Explanation	Total surface area = 216 sq units Let the side of the cube = a units Then, $6a^2 = 216$ $a = 6$ Volume of cube = $a^3 = 6 \times 6 \times 6 = 216$ cubic units When the cube is melted and recast into a sphere, the volume remains the same. Therefore, volume of the sphere = 216 bic units			

Q.No	Numerical Ability : Area		Type :MCQ	
39	Find the area of the rectangle inscribed in a right angled triangle. Given that the area of smaller right angled triangles are 10 & 20 as shown below 			
Options	A.	B.	C.	D.
Correct Ans	20			

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Explanation	 Let the sides of the rectangle BC = x & CD = y In ΔABC , $\frac{1}{2} \times AB \times x = 5$ $AB = 10/x$ In ΔCDE , $\frac{1}{2} \times DE \times y = 20$ $DE = 40/y$ ΔABC & ΔCDE are similar So $AB/CD = BC/DE$ $(10/x)/y = x/(40/y)$ $10/x \times 40/y = xy$ $(xy)^2 = 400$ Area of the rectangle = 20
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Q.No	Numerical Ability: Polygons		Type :MCQ	
40	If the sum of the interior angles of a regular polygon is 1620°, how many sides does the polygon have?			
Options	A. 9	B. 13	C. 7	D. 11
Correct Ans	D. 11			
Explanation	Let the no of sides = n Sum of interior angles = (n -2) X180 =1620°			

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	$n - 2 = 1620/180 = 9$ $n = 11$
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Q.No	Numerical Ability : Axis of symmetry		Type :MCQ	
41	How many lines of symmetry does a scalene triangle have?			
Options	A. 0	B. 1	C. 2	D. 3
Correct Ans	A. 0			
Explanation	Scalene triangle has no axes of symmetry A line of symmetry divides a shape into two mirror-image halves. Scalene triangles have all three sides of different lengths, and all three angles of different measures			

Q.No	Numerical Ability: Area		Type :MCQ	
42	The length of a rectangle is 12 cm and breadth is 8 cm. Find its area.			
Options	A.80 cm ²	B.84 cm ²	C.96 cm ²	D. 100 cm ²
Correct Ans	C.96 cm ²			
Explanation	Explanation: Area = Length x Breadth = 12 * 8 = 96 cm ²			

Q.No	Numerical Ability : Area		Type :MCQ	
43	Two triangles are similar. The first triangle has sides 6 cm, 8 cm, and 10 cm. The shortest side of the second triangle is 9 cm. Find the area of the second triangle if the area of the first triangle is 24 cm ² .			
Options	A. 36 cm ²	B. 48 cm ²	C. 54 cm ²	D. 64 cm ²

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Correct Ans	C. 54 cm ²
Explanation	Scale factor = $9/6 = 3/2$, so area factor = $(3/2)^2 = 9/4$. Area = $24 * 9 / 4 = 54^2$

Q.No	Numerical Ability : Percentage		Type :MCQ	
44	After bleaching, a towel lost 20% of its length and 10% of its breadth. What is the percentage reduction in area?			
Options	A.28%	B.30%	C.32%	D. 36%
Correct Ans	A.28%			
Explanation	Remaining area = $80\% \times 90\% = 72\%$, so reduction = 28%.			

Q.No	Numerical Ability: Probability		Type :MCQ	
45	Two dice are rolled. What is the probability of the same number appearing on both?			
Options	A.1/30	B.1/18	C.1/12	D. 1/6
Correct Ans	D. 1/6			
Explanation	There are 36 possible outcomes when rolling two dice. Same numbers can appear in 6 ways: (1,1), (2,2), (3,3), (4,4), (5,5), (6,6). So probability = $6/36 = 1/6$			

Q.No	Numerical Ability : Basics of numbers		Type :MCQ	
46	What number should be subtracted from 100 to make it a perfect square?			
Options	A.19	B.16	C.18	D. 17
Correct Ans	A.19			
Explanation	100-1981 = 9 ²			

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Q.No	Numerical Ability : LCM & HCF		Type :MCQ	
47	How many integers up to 80 are multiples of both 5 and 6?			
Options	A.22	B.10	C.12	D. 2
Correct Ans	D. 2			
Explanation	LCM of 5 and 6 = 30 Multiples of 30 up to 80: 30, 60 Total = 2 integers			

Q.No	Numerical Ability : Problem on ages		Type :MCQ	
48	The sum of ages of A and B is 45 years. Their ratio is 4:5. What will be A's age after 5 years?			
Options	A. 20 years	B. 15 years	C. 30 years	D. 25 years
Correct Ans	D. 25 years			
Explanation	Let their ages = $4x$ and $5x$ Given that $4x + 5x = 45$ $x = 45/9 = 5$ Present age of A = $4x = 4 \times 5 = 20$ years A's age after 5 years = $20 + 5 = 25$ years			

Q.No	Numerical Ability:Area	Type :MCQ
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49	A wire of length 88 cm is bent into a square. If the same wire is bent into a circle, find the change in area			
Options	A. 484 sq cm	B. 616 sq cm	C. 132 sq cm	D. 0
Correct Ans	C. 132 sq cm			
Explanation	Perimeter of square = 88 cm = 4 X side Side of the square = $88/4 = 22$ cm Area of the square = $22 \times 22 = 484$ sq cm Perimeter of circle = 88 cm = $2 \times 22/7 \times$ radius Radius = 14 cm Area of the circle = $22/7 \times 14 \times 14 = 616$ sq cm Difference in the area = 132 sq cm			

Q.No	Numerical Ability :Area		Type :MCQ	
50	A wire is bent into a rectangle of length 5 units and width 3 units . If it is reshaped into a square, find the change in area.			
Options	A. 0	B. 1	C. 2	D. 3
Correct Ans	B. 1			
Explanation	Area of the rectangle = $3 \times 5 = 15$ sq units Length of the wire = perimeter of the rectangle = $2(5+3) = 16$ units Perimeter of the square = 16 units Side of the square = $16/4 = 4$ units Area of the square = $4 \times 4 = 16$ sq units Change in are a= $16 - 15 = 1$ sq units			

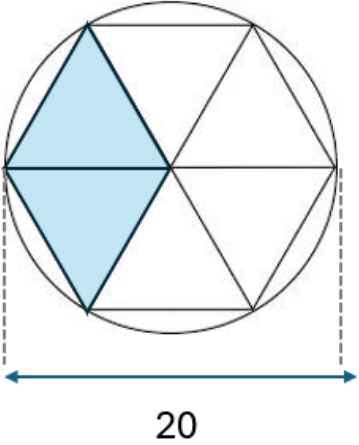
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Q.No	Numerical Ability : Basics of numbers		Type :MCQ	
51	How many prime numbers are there between 51 and 105?			
Options	A.10	B.12	C.13	D. 15
Correct Ans	B. 12			
Explanation	The prime numbers between 51 and 105 are: 53, 59, 61, 67, 71, 73, 79, 83, 89, 97, 101, 103 So, the total number of prime numbers is 12. (Tip : For numbers up to 105, checking divisibility by prime numbers below $\sqrt{105}$ ie 2, 3, 5, and 7 is enough.)			

Q.No	Numerical Ability: Basics of numbers		Type :MCQ	
52	If 2 is 6, 4 is 20, 6 is 42, then what is 5 ?			
Options	A. 25	B. 35	C. 30	D. 40
Correct Ans	C. 30			
Explanation	2 X 3 = 6 4 X 5 = 20 6 X 7 = 42 So, 5 will be 5 X 6 = 30			

Q.No	Numerical Ability : Area		Type :MCQ	
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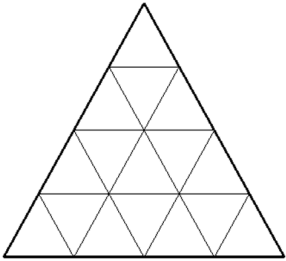
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53	Find the area of the shaded region in the circle.			
				
Options	A. 43.3	B. 129.9	C. 86.6	D. 346.4
Correct Ans	C. 86.6			
Explanation	Shaded region = 2 equilateral triangles of side $20/2$ units $= 2 \times \frac{\sqrt{3}}{4} \times 10 \times 10 = 1.732/2 \times 10 \times 10 = 86.6$			

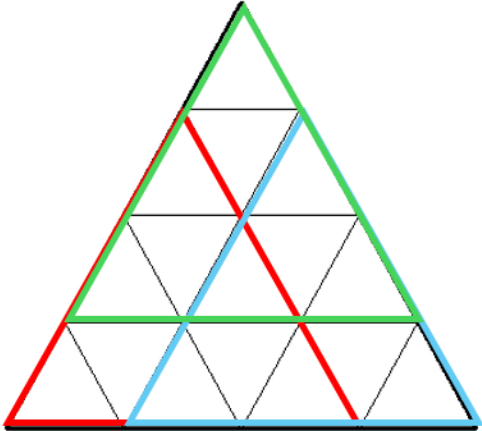
Q.No	Numerical Ability:Problem on ages		Type :MCQ	
54	Five years ago, the ratio of ages of Parag and Payal was 1:3. Ten years from now, the ratio will be 1:2. Find their present ages.			
Options	A. 10 years, 15 years	B. 15 years, 35 years	C . 20 years , 50 years	D. 30 years, 60 years
Correct Ans	C . 20 years , 50 years			
Explanation	Let their ages five year ago = x and 3x years Their present ages = x + 5. 3x + 5 Their ages after 10 years = x + 5 + 10 , 3x + 5 + 10			

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	Given that $x + 15 : 3x + 15 = 1 : 2$ $2x + 20 = 3x + 15$ $x = 15$ Their present ages = $15 + 5 = 20$ years & $3 \times 15 + 5 = 50$ years
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Q.No	Numerical Ability : Area	Type :MCQ
55	How many equilateral triangles are there whose area is 9 times the area of the smallest triangle? 	
Options	A. 0 B. 1 C. 2 D. 3	
Correct Ans	D. 3	

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Explanation	
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Q.No	Numerical Ability : Basics of numbers		Type :MCQ	
56	Two perfect squares differ by 40. Find the smallest positive integer whose square is one of them.			
Options	A. 3	B. 4	C. 9	D. 11
Correct Ans	A. 3			
Explanation	Let the number be a & b $a^2 - b^2 = 40$ $(a + b)(a - b) = 40$ $40 = 40 \times 1 = 10 \times 4 = 2 \times 20 = 8 \times 5$ For a & b to be an integer, possible values are 10X4 & 2X 20 When $(a + b)(a - b) = 10 \times 4$ $a + b = 10$ $a - b = 4$ $\rightarrow a = 7 \text{ \& } b = 3$ When			

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	$(a + b)(a - b) = 20 \times 2$ $a + b = 20$ $a - b = 2$ $\rightarrow a = 11 \text{ \& } b = 9$ So, the smallest number is 3
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Q.No	Numerical Ability : Area		Type :MCQ	
57	There are two similar triangles. The sides of the first triangle are 6.5 cm, 8 cm & 11cm and the smallest side of the second triangle is 13 cm. Find the area of the second triangle.			
Options	A. 102.9 sq cm	B. 51.45 sq cm	C. 25.7 sq cm	D. 12.86 sq cm
Correct Ans	A. 102.9 sq cm			
Explanation	Since the triangles are similar, their corresponding sides are in the same ratio. Smallest side of first triangle = 6.5 cm Smallest side of second triangle = 13 cm Ratio of triangles = $6.5/13 = \frac{1}{2}$ So the sides of second triangle = 13 cm, 16 cm & 22 cm Area = $\sqrt{(s(s-a)(s-b)(s-c))}$ where $s = (13+16+22)/2 = 25.5$ Area = $\sqrt{(25.5(25.5-13)(25.5-16)(25.5-22))}$ = $\sqrt{(25.5 \times 12.5 \times 9.5 \times 3.5)}$ = 102.9			

Q.No	Numerical Ability : Basics of numbers	Type :MCQ
58	Find the sum of factors of 26	

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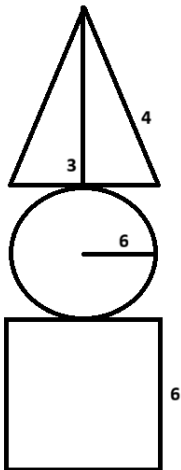
Options	A. 26	B. 40	C. 41	D. 42
Correct Ans	D. 42			
Explanation	Factors of 26 = 1, 2, 13, 26 Sum of factor = 1+2+13+26=42			

Q.No	Numerical Ability : HCF LCM		Type :MCQ	
59	How many numbers between 1-100 are divisible by both 12 and 6?			
Options	A. 6	B. 7	C. 8	D. 8
Correct Ans	C. 8			
Explanation	A number divisible by both 12 and 6 must be divisible by their LCM which is 12 No of multiples of 12 between 1- 100 = 8			

Q.No	Numerical Ability: Problem on ages		Type :MCQ	
60	The present age of a father is 3 times that of his son. Four years ago, the father was 5 times as old as the son. What is the present age of the son?			
Options	A. 8 years	B. 24 years	C. 4 years	D. 20 years
Correct Ans	A.8 years			
Explanation	Let present age of son = x years Then present age of father = 3x years 4 years ago $(3x - 4) = 5 (x - 4)$ $3x - 4 = 5x - 20$ $2x = 16$ $x = 8$ Son is 8 years old now			

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Q.No	Numerical Ability: Ratio & Proportion		Type :MCQ	
67	P:Q=2:7,Q:R=3:4,P:R=?			
Options	A. 6 : 7	B. 8 : 21	C. 14: 3	D. 3 : 14
Correct Ans	D. 3 : 14			
Explanation	Given that $P/Q = 2/7$ $Q/R = 3/4$ Multiplying both $P/Q \times Q/R = 2/7 \times 3/4$ $P/R = 3/14$			

Q.No	Numerical Ability : Surface Area		Type :MCQ	
62	There is a cone of height 4units and radius 3 units, a sphere of radius 6 units and a cube of side 6 units. What is the total surface area of all three . 			
Options	A. $168\pi + 216$	B. $216\pi + 168$	C. $144\pi + 216$	D. $81\pi + 216$

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Correct Ans	A. $168\pi + 216$
Explanation	In the cone, Height = 4 Radius = 3 Slant height = $\sqrt{4^2 + 3^2} = 5$ Total surface area of cone = $\pi r(r+l) = \pi(3)(3+5) = 24\pi$ Total surface area of sphere = $4\pi r^2 = 144\pi$ Total surface area of the cube = $6 \times 6 \times 6 = 216$ Sum total of all surface areas = $24\pi + 144\pi + 216 = 168\pi + 216$

Q.No	Numerical Ability: Area		Type :MCQ	
63	The area of a regular park is 38 m by 60m. What would be the cost of tarring the park if the cost of tarring is Rs. 10/sq m			
Options	A. Rs 21800	B. Rs 2280	C. Rs 22800	D. Rs 2180
Correct Ans	B. Rs 2280			
Explanation	Area = 38 x 60 = 2280 sq m Cost = 2280 X 10 = 22800			

Q.No	Numerical Ability: Problem on ages		Type :MCQ	
64	The difference between the ages of father & son is 24 years. After 8 years the father's age will become two times that of the son. What is the present age of son			
Options	A. 16 years	B. 18 years	C. 22 years	D. 20 years
Correct Ans	A. 16 years			

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Explanation	Let the present age of son = x years Present age age of father = x + 24 After 8 years Son's age = x + 8 Father's age = x + 24 + 8 = x + 32 Given that $x + 32 = 2(x + 8)$ $x = 32 - 16 = 16$
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Q.No	Numerical Ability : simple equations		Type :MCQ	
65	If $\frac{3x+3y}{6} = 2$ then $x + y = ?$			
Options	A. 12	B. 2	C. 3	D. 4
Correct Ans	D. 4			
Explanation	$\frac{3x+3y}{6} = 2$ $3x+3y = 12$ $x+y = 4$			

Q.No	Numerical Ability : basics of numbers		Type :MCQ	
66	Choose the odd one out if the squares of consecutive nos is difference of 1			
Options	A.24,35,48	B.24,36,49	C.48, 63, 80	D. 80, 99, 120
Correct Ans	B.24,36,49			
Explanation	Each group has numbers which are 1 less than a square number except in option B which has square number A. $24 = 25 - 1$, $35 = 36 - 1$, $48 = 49 - 1$			

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	C. $48 = 49 - 1$, $63 = 64 - 1$, $80 = 81 - 1$ D. $80 = 81 - 1$, $99 = 100 - 1$, $120 = 121 - 1$ B. $36 = 6 \times 6$, $49 = 7 \times 7$
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Q.No	Numerical Ability : Area		Type :MCQ	
67	A pizza with a diameter 28 cm is cut into 8 equal parts. What is the area of a slice?			
Options	A. 154 sq cm	B. 77 sq cm	C. 37.5 sq cm	D. 105 sq cm
Correct Ans	B. 154 sq cm			
Explanation	Radius of the pizza= $28/2 = 14$ cm Area of a slice = $1/8 \times 22/7 \times 14 \times 14 = 77$			

Q.No	Numerical Ability : Average		Type :MCQ	
68	Average of 40 students = 60%. Average of 25 of them = 65%. What is the average of the remaining 15?			
Options	A.51%	B.52%	C.53%	D. 545
Correct Ans	B.52%			
Explanation	- Total marks = $40 \times 60 = 2400$ - Marks of 25 students = $25 \times 65 = 1625$ - Marks of remaining 15 = $2400 - 1625 = 775$ - Average = $775 \div 15 = 51.67\% \approx 51.7\%$ Answer: 51.7% (or 52% if rounded)			

Q.No	Numerical Ability : Problem on ages	Type :MCQ
69	If Mr. Sharma's age is 40 and his son is 10 now. After how many years will Mr. Sharma's age is thrice that of son's age.	

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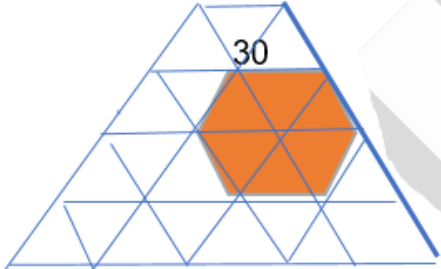
Options	A. 15 years	B. 45 years	C. 10 years	D. 5 years
Correct Ans	D. 5 years			
Explanation	Let after x years, Mr. Sharma will be thrice of his son's age Then $40 + x = 3(10 + x)$ $3x - x = 10$ $x = 10/2 = 5$			

Q.No	Numerical Ability : Percentage		Type :MCQ	
70	20% of a number is 480, what is the number?			
Options	A. 4800	B. 3600	C. 240	D. 2400
Correct Ans	D. 2400			
Explanation	Let the number = x $20/100 \times x = 480$ $x = 480 \times 5 = 2400$			

Q.No	Numerical Ability :Area		Type :MCQ	
71	A circle is inscribed in a square of side 10 cm, what is the area of the circle?			
Options	A. 78.5 sq cm	B. 157 sq cm	C. 314 sq cm	D. 235.3 sqcm.
Correct Ans	A. 78.5 sq cm			
Explanation	Diameter of circle = Side of the square = 10 cm Radius = 10/2 = 5 cm Area of the circle = 3.14 X 5 X 5 = 78.5 sq cm			

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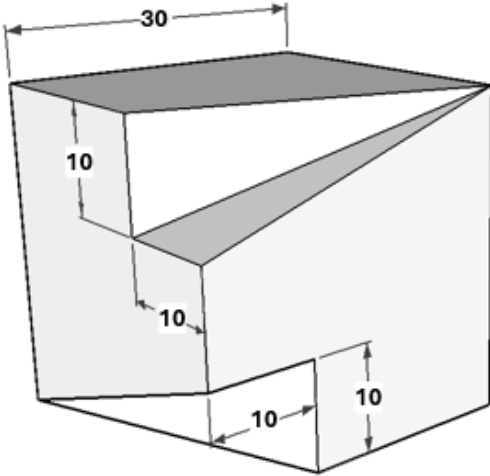


Q.No	Numerical Ability:Area		Type :MCQ	
73	Find the shaded area 			
Options	A. 2338.2	B. 1169.1	C. 3507.3	D. 1753.65
Correct Ans	A. 2338.2			
Explanation	Length of the side of shaded hexagon = 30 Area = $6 \times \frac{\sqrt{3}}{4} \times 30 \times 30 = 2338.2$			

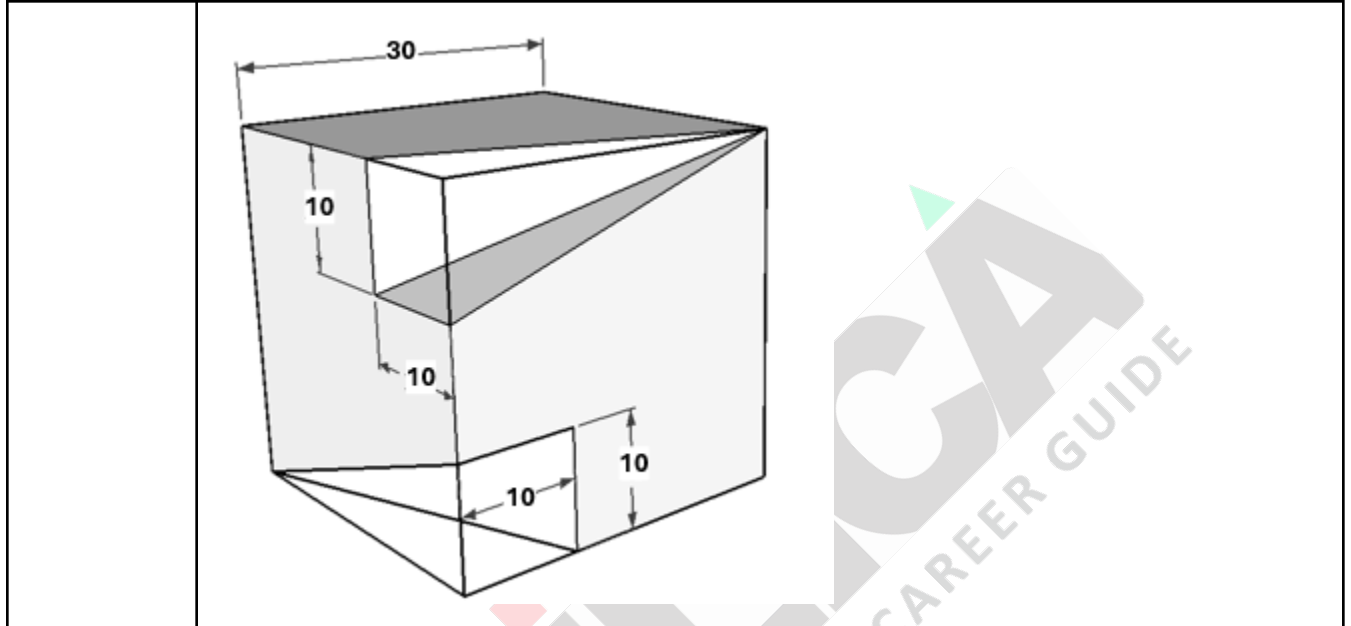
Q.No	Numerical Ability:Problem on ages		Type :MCQ	
73	If ratio of A and B present ages is 5: 7 and 6 years ago their ratio was 2:3 what is B's current age			
Options	A. 42 years	B. 30 years	C. 28 years	D. 20 years
Correct Ans	A. 42 years			
Explanation	Let their present ages = 5x & 7x			

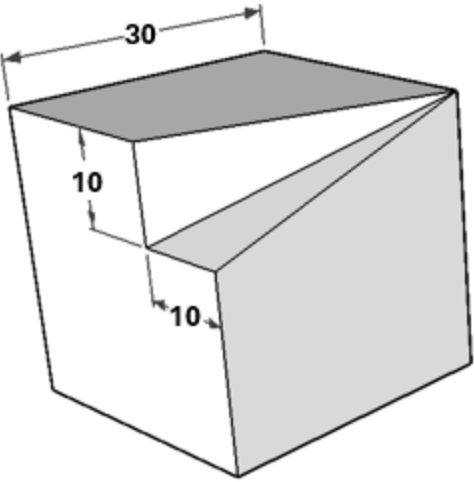
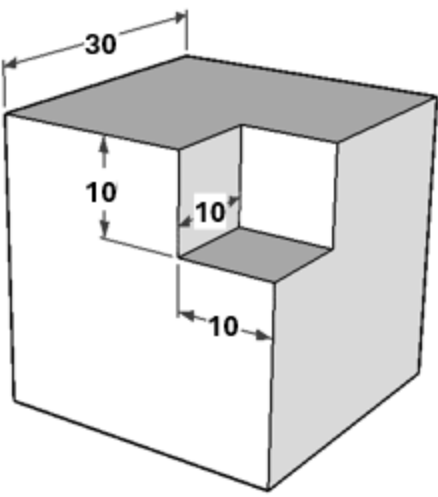
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	6 years ago $5x - 6 : 7x - 6 = 2:3$ $15x - 18 = 14x - 12$ $x = 6$ B's current age = $7x = 42$ years
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Q.No	Numerical Ability : Volume	Type :MCQ
74	From a cube of side 30 units two identical parts have been cut out as shown below. What is the ratio of the volume of the cut outs to the total volume of the cube 	
Options	A.2: 27 B.2:30 C.3:37 D. 2:80	
Correct Ans	A.2: 27	
Explanation	The cut out parts are pyramids with base 10×10 and height 30 Volume of this pyramid = $\frac{1}{3} \times 10 \times 10 \times 30 = 1000$ cubic units Total volume of both cutouts = $1000 \times 2 = 2000$ cubic units Volume of the cube = $30 \times 30 \times 30 = 27000$ cubic units Their ratio = $2000 : 27000 = 2 : 27$	

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Q.No	Numerical Ability: Volume	Type :MCQ
75	From two cubes, of side 30 units some parts have been cut out as shown below. Which of the given statement is true  A  B	

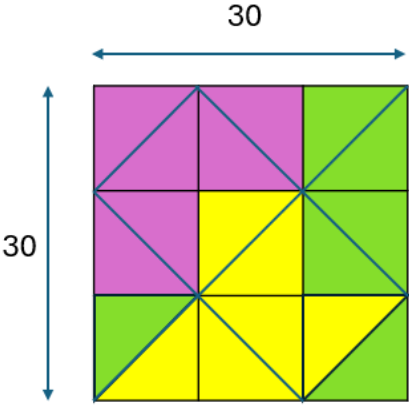
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Options	A.A and B have same volume	B. Volume of A is greater than that of B	C. Volume of B is greater than that of A	D. The cutout in A is half of of the volume of the cutout in B
Correct Ans	A. A and B have same volume			
Explanation	The cut out part in A is pyramid with base 10 X 10 and height 30 Volume of this pyramid = $\frac{1}{3} \times 10 \times 10 \times 30 = 1000$ cubic units The cut out part in B is a cube of dimension 10X10X10 Volume of this cube = $10 \times 10 \times 10 = 1000$ cubic units Both cut outs are same so Volume of A = Volume of B			

Q.No	Numerical Ability : Basics of numbers		Type :MCQ	
76	A weighs 50 kg plus 1/3 of her own weight. If B weighs 55 kg, what is A's weight?			
Options	A.55kg	B.75 kg	C.65 kg	D. 150 kg
Correct Ans	B. 75 kg			
Explanation	Let A's weight = x kg $x = 50 + x/3$ $2x/3 = 50$ $x = 75$ kg			

Q.No	Numerical Ability:Area	Type :MCQ
77	What is the difference between purple & green areas?	

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Options	A. 10	B. 30	C. 100	D. 0
Correct Ans	D. 0			
Explanation	Each smaller square area = $30/3 \times 30/3 = 100$ sq units Each smaller triangle = $100/2 = 50$ sq units Purple area = $100 \times 3 = 300$ Green area = $100 \times 2 + 50 \times 2 = 300$ Their difference = 0			

Q.No	Numerical Ability :Simple equations		Type :MCQ	
78	Solve equation : $36 \times (15 + 12) - 10$			
Options	A. 612	B. 420	C. 962	D. None of these
Correct Ans	C. 962			
Explanation	$36 \times (15 + 12) - 10 = 36 \times 27 - 10 = 972 - 10 = 962$			

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Q.No	Numerical Ability :Percentage		Type :MCQ	
79	The length and breadth of the rectangle is 15 & 12 centimeters. What is the change in area if length is decreased by 20% & breadth is increased by 30%			
Options	A. 3.6	B. 7.4	C. 4	D. 7.2
Correct Ans	D.			
Explanation	Area = 15 X 12 = 180 New length = 15 X .8 = 12 New breadth = 12 X 1.3 = 15.6 New area = 12 x 15.6 = 187.2 Change in area = 187.2 - 180 = 7.2			

Q.No	Numerical Ability : Problem on ages		Type :MCQ	
80	The sum of the ages of the family members is 70. There are five members in the family. Find the age of the youngest member of the family? Each member of the family is five years younger than the other.			
Options	A. 4 years	B. 5 years	C. 9 years	D. 10 years
Correct Ans	A. 4 years			
Explanation	Let the age of the youngest member = x years Ages of other members= x +5, x + 10, x + 15, x + 20 Given that $x + x + 5 + x + 10 + x + 15 + x + 20 = 70$ $5x + 50 = 70$ $5x = 20$ $x = 4$ years			

Q.No	Numerical Ability : Speed & distance	Type :MCQ
81	A man's speed with the current is 15 km/hr, and the current speed is 2.5 km/hr. The	

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	man's speed against the current is			
Options	A. 15 km/hr	B. 8 km/hr	C. 12 km/hr	D. 10 km/hr
Correct Ans	D. 10 km/hr			
Explanation	Man's speed in still water = $15 - 2.5 = 12.5$ km/hr Man's speed against the stream = $12.5 - 2.5 = 10$ km/hr			

Q.No	Numerical ability : Basics of numbers		Type :MCQ	
82	In a college, there are 300 students. The students are divided equally into groups, where each group consists of 60 students. Each group reads 5 different newspapers, and no newspaper is shared between groups. If all newspapers are distributed uniformly across groups, what is the total number of newspapers?			
Options	A.At least 5	B.At most, 20	C. Exactly 25	D. None of these
Correct Ans	C. Exactly 25			
Explanation	Each group = 60 students Total newspaper groups formed=$300/60 = 5$ groups Each group reads = 5 newspapers Total newspapers = $5 \times 5 = 25$			

Q.No	Numerical Ability : Set Theory		Type :MCQ	
83	Concerning a universal set, the inclusion of a subset in another is a relation, which is			
Options	A.Symmetric only	B.Equivalence relation	C. Reflexive only	D. None of these

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Correct Ans	D. None of these
Explanation	The relation “subset inclusion” ($\subseteq$) on subsets of a universal set is defined as: For sets A,B: $A \subseteq B$ means every element of A is also in B. Now check properties: • Reflexive: $A \subseteq A$ - True • Symmetric: If $A \subseteq B$, then $B \subseteq A$ - False • Transitive: If $A \subseteq B$ and $B \subseteq C$, then $A \subseteq C$ - True So the relation is reflexive + transitive, but not symmetric, hence it is not an equivalence relation.

Q.No	Numerical Aptitude : Percentage		Type :MCQ	
84	Karnavati Express has a capacity of 800 seats, of which 15% are in AC coaches and the rest are in sleeper coaches. During its journey, 80% of the total seats were booked. If 70% of the AC seats were booked, how many sleeper coach seats remained empty?			
Options	A. 40	B. 124	C. 144	D. Data insufficient
Correct Ans	B. 124			
Explanation	AC coaches seats – 15% of 800 = 120 Sleeper coaches seats = 800 – 120 = 680 Total seats booked – 80% of 800 = 640 Seats in AC booked = 70% of 120 = 84 Remaining seats which will be for sleeper = 640 – 84 = 556 So, seats empty in the sleeper coach= 680 – 556 = 124			

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Q.No	Numerical Ability :Roman Numbers		Type :MCQ	
85	Which is not meaningful:			
Options	A.XXV	B.XIV	C. XXXV	D. VX
Correct Ans	D. VX			
Explanation	XXV = 25 - valid XIV = 14 - valid XXXV = 35 - valid VX - not a valid Roman numeral			

Q.No	Numerical Ability : Problem on ages		Type :MCQ	
86	Two friends have ages in the ratio 4:5. If the total age is 72 years, how old is the elder friend?			
Options	A. 40 years	B. 32 years	C. 45 years	D. 36 years
Correct Ans	A. 40 years			
Explanation	Let their ages = $4x$ & $5x$ Given that $4x + 5x = 72$ $9x = 72$ $x = 8$ Age of elder friend = $5x = 5 \times 8 = 40$ years			

Q.No	Numerical Ability : Mensuration		Type :MCQ	
87	How many vertices does a square-based pyramid have?			
Options	A. 4	B.6	C. 8	D. 5
Correct Ans	D. 5			

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Explanation	A square-based pyramid consists of: • 1 square base with 4 vertices (corners) • 1 apex (top vertex) Total vertices = 4 + 1 = 5
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Q.No	Numerical Ability : Mensuration		Type :MCQ	
88	The area of a circle is 9,856 square units . What is the circumference of the circle?			
Options	A.352 units	B.308 units	C. 264 units	D. 176 units
Correct Ans	A.352 units			
Explanation	Area of circle = πr^2 = 9856 r^2 = 9856 X 7/22 =3136 r = 56 Circumference = 2 $\times$ 22/7 $\times$ 56=352			

Q.No	Numerical Ability : basics of numbers		Type :MCQ	
89	Ten frogs catch ten insects in ten seconds. How many frogs are required to catch 100 insects in 100 seconds?			
Options	A.5	B.10	C. 20	D. 100
Correct Ans	B.10			
Explanation	10 frogs catch 10 insects in 10 seconds. So, 1 frog catches 1 insect in 10 seconds. In 100 seconds, one frog catches 10 insects. Therefore, 10 frogs catch 100 insects in 100 seconds.			

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Q.No	Numerical Ability : Permutation & Combination		Type :MCQ	
90	In how many different ways can the letters of the word "LEADER" be arranged?			
Options	A.720	B.360	C. 180	D. 120
Correct Ans	B.360			
Explanation	LEADER has 6 letters, with E repeated twice. $\frac{6!}{2!} = \frac{720}{2} = 360$			

Q.No	Numerical Ability : Geometry		Type :MCQ	
91	The greatest chord of a circle is called its:			
Options	A.Radius	B.Diameter	C. Tangent	D.
Correct Ans	B.Diameter			
Explanation	The diameter is the longest chord of a circle.			

Q.No	Numerical Ability : Mensuration		Type :MCQ	
92	The length and width of a rectangle are in the ratio 3:5. If its perimeter is 48 cm, what are its dimensions?			
Options	A.6 cm and 10 cm	B.8 cm and 12 cm	C. 9 cm and 15 cm	D. 12 cm and 20 cm
Correct Ans	C. 9 cm and 15 cm			
Explanation	Let dimensions be 3x and 5x.			

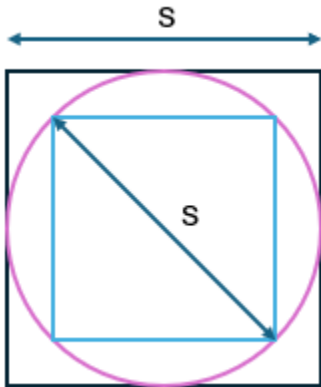
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	$2(3x+5x)=48$ $16x=48$ $x=3$ Dimensions = 9 cm and 15 cm.
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Q.No	Numerical Ability : Geometry		Type :MCQ	
93	The angle formed in the minor segment of a circle is:			
Options	A.Acute	B.Right	C. Obtuse	D. Straight
Correct Ans	C. Obtuse			
Explanation	An angle subtended by a chord at a point on the minor segment is always obtuse (greater than 90°). Conversely, an angle subtended at a point on the major segment is acute .			

Q.No	Numerical Ability : Mensuration		Type :MCQ	
94	A circle of maximum size is cut from a square. Then a square of maximum size is cut from the circle. What is the area of the final square compared to the original square?			
Options	A.25%	B.50%	C. 75%	D. 100%
Correct Ans	B.50%			

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Explanation	 Let the side of outer square = s Then its area = s^2 Diameter of the circle = Diagonal of inner square = s Area of inner square = $\frac{1}{2} \times \text{diagonal}^2 = \frac{1}{2} \times s \times s = \frac{s^2}{2}$ which is 50% of the original square area.
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Q.No	Numerical Ability : Work & Time		Type :MCQ	
95	Twelve persons can complete a work in 18 days. Six people start the work and after 8 days, six more join them. How many additional days are needed to finish the remaining work?			
Options	A.10 days	B.14 days	C. 20 days	D. 28 days
Correct Ans	C. 20 days			
Explanation	Total work = $12 \times 18 = 216$ person-days.			

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	Work done in first 8 days: $6 \times 8 = 48$ Remaining work: $216 - 48 = 168$ Now 12 persons work: $168 / 12 = 14$ Additional days required = 14 days.
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Q.No	Numerical Ability : Basics of numbers		Type :MCQ	
96	What is the degree of the polynomial x^4-x^2+2 ?			
Options	A.2	B.3	C. 4	D. 5
Correct Ans	C. 4			
Explanation	The highest power of x is 4.			

Q.No	Numerical Ability : Geometry		Type :MCQ	
97	The locus of a point equidistant from a fixed point is a:			
Options	A.Line	B.Circle	C. Ellipse	D. Parabola
Correct Ans	B.Circle			
Explanation	A circle is the set of all points at a constant distance from a fixed point (the center).			

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Q.No	Numerical Aptitude : Geometry		Type :MCQ	
98	The perimeter of a triangle with integer side lengths is 15 units. How many distinct triangles are possible?			
Options	A. 15	B. 20	C. 10	D. Cannot say
Correct Ans	C. 10			
Explanation	Let the sides be $a \leq b \leq c$ Since $a+b+c=15$ and $a+b>c$, the possible integer triples are: (1,7,7), (2,6,7), (3,5,7), (3,6,6), (4,4,7), (4,5,6), (5,5,5), (2,5,8), (3,4,8), (1,6,8)			

Q.No	Numerical Ability : Simplification		Type :MCQ	
99	If $a^2 - b^2 = 8$ and $ab = 2$, find $a^4 + b^4$			
Options	A. 64	B. 68	C. 72	D. Data inadequate
Correct Ans	C. 72			
Explanation	$a^2 - b^2 = 8$ $(a^2 - b^2)^2 = 8^2 = 64$ $a^4 + b^4 - 2a^2b^2 = 64$ $a^4 + b^4 = 64 + 2 \times 2^2$ (substituting the value of “ $ab = 2$ ”) $a^4 + b^4 = 64 + 8 = 72$			

Q.No	Numerical Aptitude : AP & GP		Type :MCQ	
100	How many terms are in the Arithmetic Progression 20, 25, 30,..., 135, 140?			
Options	A. 23	B. 24	C. 25	D. 26

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Correct Ans	C. 25
Explanation	Here First term $a = 20$, Common difference $d = 5$ n th term $= a + (n-1)d = 140$ $20 + (n-1) \times 5 = 140$ $(n-1) \times 5 = 140 - 20 = 120$ $n - 1 = 120/5 = 24$ $n = 25$

Q.No	Numerical Ability : Mensuration		Type :MCQ	
101	Three cubes of side 2 cm are glued surface to surface horizontally such that it produces a cuboid. What is the surface area of the cuboid?			
Options	A. 72 sq cm	B. 64 sq cm	C. 60 sq cm	D. 56 sq cm
Correct Ans	D. 56 sq cm			
Explanation	Length of the cuboid = 2 + 2+ 2 = 6cm Width of the cuboid = 2 cm Height of the cuboid = 2 cm Surface area = 2 X (6X2 + 2X2 + 2X6) = 2 X (12+ 4 + 12) = 56 sq cm			

Q.No	Numerical Ability : Problem on ages		Type :MCQ	
102	If the ratio of ages of A and B is 3 : 4 and their sum is 56, what is A's age?			
Options	A.20	B.22	C. 24	D. 26
Correct Ans	C. 24			
Explanation	$3x + 4x = 56 \rightarrow x = 8 \rightarrow A = 3 \times 8 = 24$			

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Q.No	Numerical Aptitude : Basics of numbers		Type :MCQ	
103	Multiplication is repetition of which mathematical operation?			
Options	A. Addition	A. Division	B. Subtraction	C. Exponents
Correct Ans	A.Addition			
Explanation	Multiplication is defined as repeated addition of equal groups (e.g., $5 \times 3 = 5 + 5 + 5$).			

Q.No	Numerical Ability : Profit & Loss		Type :MCQ	
104	An article costs ₹850 to the seller. He offers a 15% discount on the marked price and still makes a 5% profit. What is the marked price?			
Options	A. ₹892.5	B. ₹1026	C. ₹1020	D. ₹1050
Correct Ans	D. ₹1050			
Explanation	Cost Price = 850 Profit = 5% Selling Price = $850 + 5\% \text{ of } 850 = 892.5$ Let Marked Price = Rs x Discount = 15% Selling Price = $x - 15\% \text{ of } x = .85x$ $.85x = 892.5$ $x = \text{Rs } 1050$			

Q.No	Numerical Ability : Mensuration		Type :MCQ	
105	A triangle with sides 3 cm, 4 cm, and 5 cm is a/an:			
Options	A.Equilateral	B.Isosceles	C. Right-angled	D.Obtuse-angled

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Correct Ans	C. Right-angled
Explanation	$3^2 + 4^2 = 9 + 16 = 25 = 5^2$

Q.No	Numerical Ability		Type :MCQ	
106	Total number of squares in a 4×4 grid:			
Options	A.16	B.24	C. 30	D. 36
Correct Ans	C. 30			
Explanation	$4^2 + 3^2 + 2^2 + 1^2 = 16 + 9 + 4 + 1 = 30$			