THE WISDOM ACADEMY

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Class: 9th **Test#05: Math** **Total Marks:40** **Chap#9**

Student Name: _____ **Roll No:** _____

Q: 01 Encircle the correct option: (1x10)

1	Symbol of similarity is:				
	a) ~	b) ≅	c) ≈	d) ↔	
2	Proportionality of sides means _____ side is k times of its, corresponding side:				
	a) ONE	b) TWO	c) THREE	d) FOUR	
3	If the ratio of all corresponding sides are _____ then the triangles are similar.				
	a) equal	b) less than	c) greater then	d) Non of these	
4	The sides of two similar rectangles are in ratio 1:4. Area of larger rectangle is 64m². The area of smaller rectangle will be:				
	a) 4 m²	b) 8 m²	c) 16 m²	d) 32 m²	
5	The exterior angle of regular pentagon is:	a) 40°	b) 45°	c) 60°	d) 72°
6	If the ratio of the areas of two similar figures is 16:25, what is the ratio of their corresponding side lengths?				
	a) 4:5	b) 8:12.5	c) 256:625	d) 16:25	
7	If 1 = 10 cm, 2 = 25 cm, A1 = 40 cm², A2 = _____:	a) 150 cm²	b) 250 cm²	c) 350 cm²	d) 450 cm²
8	Two similar rectangular prisms have dimension in a ratio of 1:3. What is the ratio of their volumes?				
	a) 1:3	b) 1:9	c) 1:27	d) 1:81	
9	The total number of diagonals in a polygon with 9 sides is:				
	a) 18	b) 21	c) 25	d) 27	
10	If the volume of two similar solids is 125 cm³ and 27 cm³, the ratio of their corresponding heights is _____.				
	a) 3:5	b) 5:3	c) 25:9	d) 9:25	

Q: 02 Solve these Given Questions:

1) Two polygons are similar with a ratio of corresponding sides being . If the area of the smaller polygon is 54 cm². Find the area of the larger polygon.
2) Two cubes are similar. One side of a longer cube has 7 cm and volume 343 cm³. If one side of a smaller cube has 3 cm then find the volume.
3) The ratio of two similar spheres in the ratio 3 : 8. What is the ratio of their volumes?
4) The right cones have volumes in the ratio 1.125. What is the ratio of the heights?
5) Two tetrahedrons have volume in the ratio 8:27. What are the ratios of their bases?
6) Find the ratio of area if the ratio of corresponding lengths is 8:9?
7) What do you know about similar triangles?
8) Define scaled version?
9) A solid cone C is cut into two pieces A and B with sloping edges 6cm, 4cm. Find the ratio of diameters of the bases of cones A and C.
10) Two similar bottles are such that one is twice as high the other. What is the ratio of their surface area and their capacities?

Q: 03 Solve these Long Questions:

A. The ratio of the corresponding lengths of similar canonical cans is 3 : 2. The larger canonical can have surface area of 96 m². Find the surface area of smaller canonical can.

B. The areas of two similar triangles are 144 cm² and 81 cm². If the base of large triangles are 30 cm, find the Corresponding base of small triangle?