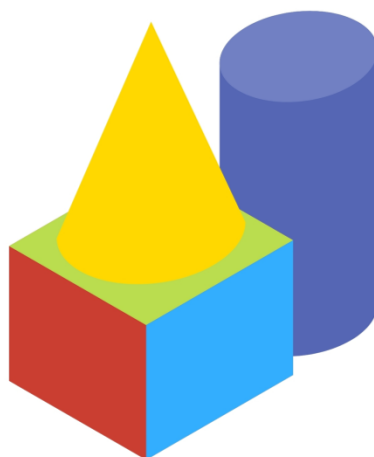




# MATHEMATICS - 10TH

**IMPORTANT MCQ'S - MATHS (10TH GRADE)**



## **SURFACE AREAS AND VOLUMES**



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Material Curated by  
Er. Sonal Agrawal Sir  
Ex. Scientist , BARC Mumbai



## 10th - Maths

SN		Marks
1	<p>The volumes of two spheres are in the ratio 64 : 27. The ratio of their surface areas is ?</p> <p>( a ) 1:2 ( b ) 2:3</p> <p>( c ) 0.3861111111 ( d ) 16:9</p>	2
2	<p>A solid cuboidal slab of iron of dimension <math>66\text{cm} \times 20\text{cm} \times 27\text{cm}</math> is used to cast an iron pipe. If the outer diameter of the iron pipe is 10 cm and thickness is 1 cm, then find the length of the pipe.</p> <p>( a ) 1260 cm ( b ) 1180 cm</p> <p>( c ) 1200 cm ( d ) 1140 cm</p>	1
3	<p>The radius of sphere is <math>r</math> cm. It is divided into two equal parts. What is the whole surface area of two parts?</p> <p>( a ) <math>8\pi r^2</math> ( b ) <math>7\pi r^2</math></p> <p>( c ) <math>10\pi r^2</math> ( d ) <math>6\pi r^2</math></p>	2
4	<p>Find the total surface area of a solid hemisphere of radius <math>r</math>:</p> <p>( a ) <math>3\pi r</math> ( b ) <math>3\pi r^2</math></p> <p>( c ) <math>2\pi r^2</math> ( d ) <math>4\pi r^2</math></p>	1
5	<p>A cone of radius 8 cm and height 12 cm is divided into two parts by a plane through the mid-point of its axis parallel to its base. Find the ratio of the volumes of two parts.</p> <p>( a ) 7:1 ( b ) 8:9</p> <p>( c ) 10:7 ( d ) 6:1</p>	2
6	<p>The curved surface area of a right circular cone of height 15 cm and base diameter 16 cm is ?</p> <p>( a ) <math>60\pi\text{cm}^2</math> ( b ) <math>68\pi\text{cm}^2</math></p> <p>( c ) <math>120\pi\text{cm}^2</math> ( d ) <math>136\pi\text{cm}^2</math></p>	2
7	<p>If the area of three adjacent faces of a cuboid are X, Y and Z respectively, then what is the volume of cuboid?</p>	1







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## Mentors



**Er. Sonal Kumar Agrawal**

✍ B.E., M.Tech.  
✍ Ex BARC Scientist (Mumbai)

India's Renowned Faculty

 **Sonal Sir**

 **SEARCH**





**Er. Neha Agrawal**

✍ B.E., M.Tech.  
✍ Renowned Faculty Raipur

**And Team**

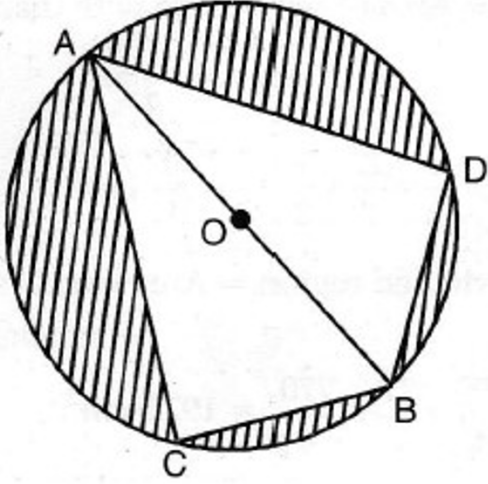
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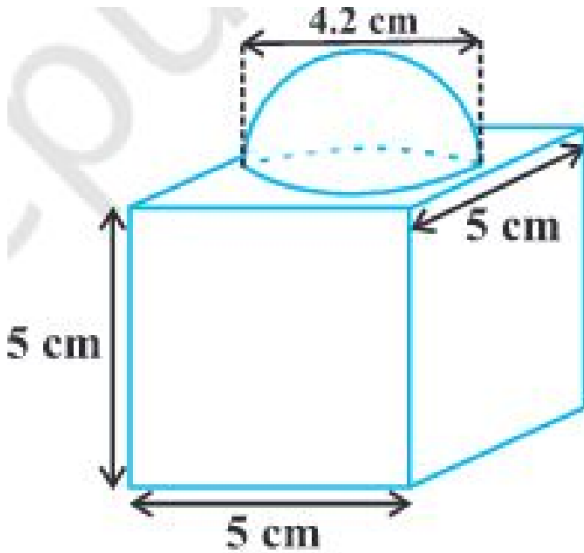


	<p>(a) <math>\sqrt{XYZ}</math></p> <p>(c) <math>XYZ^3</math></p>	<p>(b) <math>XYZ^2</math></p> <p>(d) <math>XYZ</math></p>	
8	 <p>In the above image, find the area of the shaded region, if <math>BC = BD = 8</math> cm, <math>AC = AD = 15</math> cm and O is the centre of the circle. (Take, <math>\pi = 3.14</math>).</p> <p>(a) <math>105.87 \text{ cm}^2</math></p> <p>(b) <math>106.87 \text{ cm}^2</math></p> <p>(c) <math>116.87 \text{ cm}^2</math></p> <p>(d) NONE OF THESE</p>		1
9	<p>The volume of the largest right circular cone that can be cut out from a cube of edge 4.2 cm is</p> <p>(a) <math>9.7 \text{ cm}^3</math></p> <p>(b) <math>77.6 \text{ cm}^3</math></p> <p>(c) <math>58.2 \text{ cm}^3</math></p> <p>(d) <math>19.4 \text{ cm}^3</math></p>		2
10	<p>A cone of radius 4 cm is divided into two parts by drawing a plane through the mid point of its axis and parallel to its base. Compare the volumes of the two parts.</p> <p>(a) 1:5</p> <p>(b) 4:5</p> <p>(c) 1:7</p> <p>(d) 3:9</p>		2
11	<p>If a cone is cut into two parts by a horizontal plane passing through the mid-points of its axis, what is the ratio of the volume of the upper part and the cone?</p> <p>(a) 1 : 8</p> <p>(b) 1 : 7</p> <p>(c) 7 : 8</p> <p>(d) 7 : 2</p>		1







12	<p>The hour hand of a clock is 6 cm long. The area swept by it between 11 : 20 am and 11 : 55 am is</p> <p>( a ) <math>5.2 \text{ cm}^2</math> ( b ) <math>5.8 \text{ cm}^2</math></p> <p>( c ) <math>5 \text{ cm}^2</math> ( d ) <math>5.5 \text{ cm}^2</math></p>	1
13	<p>A cubical ice cream brick of edge 22 cm is to be distributed among some children by filling icecream cones of radius 2 cm and height 7 cm upto its brim. How many children will get ice cream cones ?</p> <p>( a ) 163 ( b ) 263</p> <p>( c ) 363 ( d ) 463</p>	2
14	 <p>In the above image, the decorative block shown is made of two solids, a cube and a hemisphere. The base of the block is a cube with edge 5 cm, and the hemisphere fixed on the top has a diameter of 4.2 cm. Find the total surface area of the block. (Take <math>\pi = \frac{22}{7}</math> )</p> <p>( a ) <math>163.86 \text{ cm}^2</math> ( b ) <math>136.86 \text{ cm}^2</math></p> <p>( c ) <math>163.68 \text{ cm}^2</math> ( d ) <math>136.68 \text{ cm}^2</math></p>	2



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### SONAL SIR

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- Trained More then 1 lakh students online and Offline - Bilaspur, Bhilai, Delhi



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Selected in NTPC

P Chaitanya  
Selected in IIT-Bombay,  
Placed in Micron



Prakhar Jain  
Selected in IISc Bangalore,  
Placed in Samsung

## सीयू के छात्र मनु व मनीष का इंटेल कंपनी में चयन, 21 लाख सालाना पैकेज



बिलासपुर छात्र मनु कश्यप और मनीष कुमार सिंह का चयन इंटेल प्राइवेट लिमिटेड के लिए हुआ है। कंपनी इन छात्रों को सालाना 21 लाख रुपए का पैकेज दे रही है। ये दोनों छात्र सत्र 2017 में सीयू के इलेक्ट्रॉनिक्स एंड कम्युनिकेशन इंजीनियरिंग विभाग से बोटिक की उपाधि प्राप्त की। वर्तमान में ये भारतीय प्रौद्योगिकी संस्थान (आईआईटी) दिल्ली में एमटेक कर रहे हैं। इंटेल कॉर्पोरेशन एक अमेरिकी बहुराष्ट्रीय कंपनी है। सिलिकॉन वैली में सांता क्लारा स्थित इस कंपनी का भारत में मुख्यालय बेंगलूरु है।

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15	<p>If the volume and the surface area of a sphere are numerically equal, then the radius of the sphere is:</p> <p>( a ) 2 units ( b ) 1 unit</p> <p>( c ) 3 units ( d ) 4 units</p>	1
16	<p>A cylinder and a cone are of the same base radius and of same height. Find the ratio of the value of the cylinder to that of the cone</p> <p>( a ) 3:1 ( b ) 2:5</p> <p>( c ) 3:7 ( d ) 8:3</p>	2
17	<p>Read the statements carefully and answer them on the basis of following options, select the one that best describes the two statements.</p> <p>Assertion: The sum of the length, breadth and height of a cuboid is 19 cm and its diagonal is <math>5\sqrt{5}</math> cm. Its surface area is <math>236 \text{ cm}^2</math>.</p> <p>Reason: The lateral surface area of a cuboid is <math>2(l + b)</math>.</p> <p>( a ) Both assertion and reason are correct and reason is the correct explanation of the assertion. ( b ) Both assertion and reason are correct but reason is not the correct explanation of the assertion.</p> <p>( c ) Assertion is correct but reason is incorrect. ( d ) Assertion is incorrect but reason is correct.</p>	1
18	<p>A sphere of maximum volume is cut-out from a solid hemisphere of radius r. What is the ratio of the volume of the hemisphere to that of the cut-out sphere?</p> <p>( a ) 4:1 ( b ) 3:2</p> <p>( c ) 1:7 ( d ) 4:3</p>	1
19	<p>A cylinder and a cone are of same base radius and of same height. The ratio of the volumes of cylinder to that of the cone is:</p> <p>( a ) 1:3 ( b ) 2:1</p> <p>( c ) 3:1 ( d ) 1:2</p>	1
20	<p>The ratio of lateral surface area to the total surface area of a cylinder with base diameter 1.6 m and height 20 cm is ?</p> <p>( a ) 1:7 ( b ) 1:5</p> <p>( c ) 7:1 ( d ) 5:1</p>	2







# MATHEMATICS - 10TH

## IMPORTANT MCQ'S - MATHS (10TH GRADE)

### SURFACE AREA AND VOLUME

1	2	3	4	5	6	7	8
D	A	D	B	A	D	A	B
9	10	11	12	13	14	15	16
D	C	A	D	C	A	C	A
17	18	19	20	21	22	23	24
C	A	C	B	-	-	-	-
25	26	27	28	29	30	31	32
-	-	-	-	-	-	-	-
33	34	35	36	37	38	39	40
-	-	-	-	-	-	-	-
41	42	43	44	45	46	47	48
-	-	-	-	-	-	-	-