



MATHS

BOOKS - KAPLAN INC MATHS (ENGLISH)

SOLID GEOMETRY

Example

1. A right circular cone and a sphere have equal volumes. If the cone has radius x and

height $2x$, what is the radius of the sphere ?

A. x

B. $\frac{x}{\sqrt[3]{2}}$

C. $\sqrt[3]{2}$

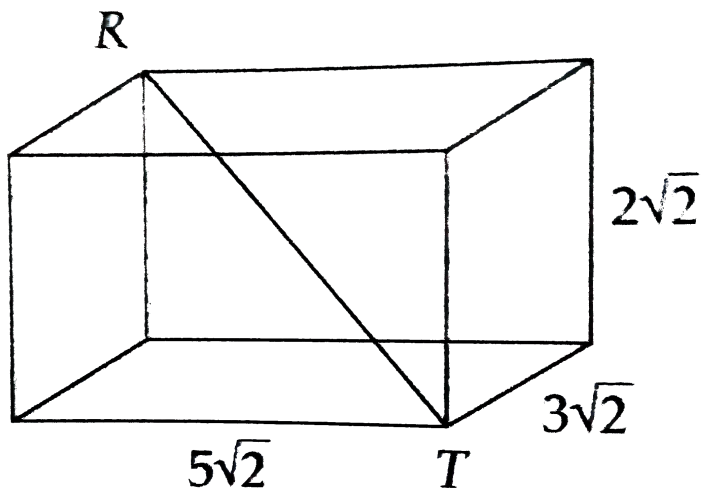
D. $\frac{1}{\sqrt[3]{2}}$

Answer: B



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2. In the rectangular solid in Figure, what is the distance from vertex R to vertex T?



A. $2\sqrt{19}$

B. $2\sqrt{17}$

C. $8\sqrt{2}$

D. $10\sqrt{2}$

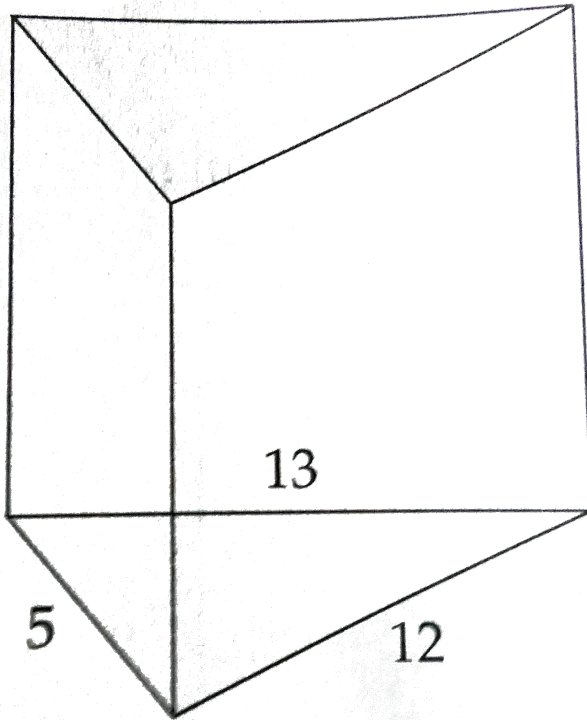
Answer: A



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3. In the figure above, the bases of the right uniform solid are triangles with sides of length 5, 12, and 13. If the surface area of the

solid is 360, what is the volume ?



A. 30

B. 180

C. 300

D. 600

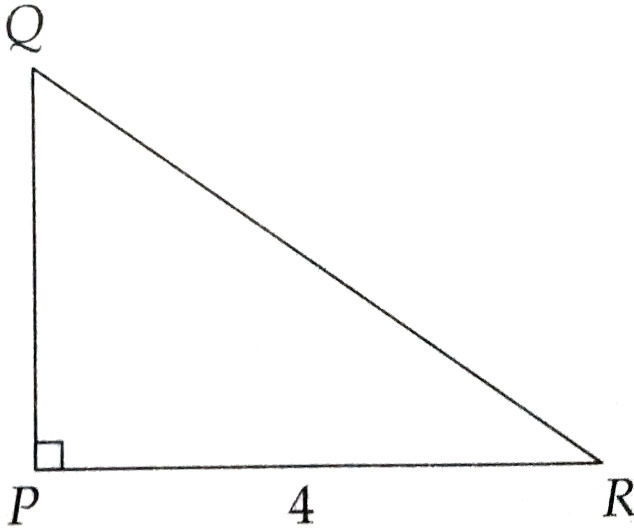
Answer: C



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4. The measure of angle $\angle QPR$ is 90 degrees, and the area of triangle PQR is 6. If triangle PQR is rotated 360° about side PR, what is the total surface area of the resulting

solid ?



A. 24.00

B. 50.27

C. 75.40

D. 97.39

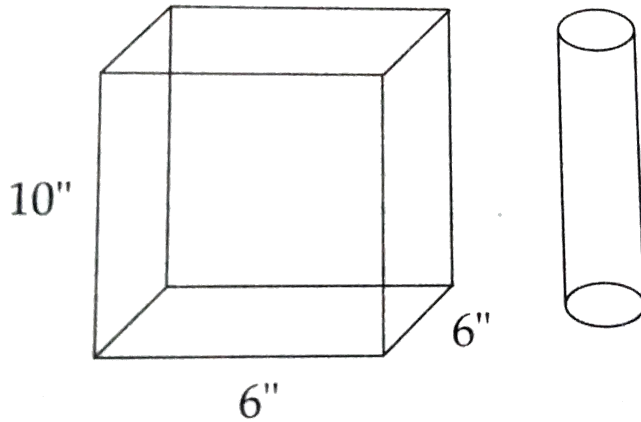
Answer: C



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5. Figure shows a rectangular box and a cylindrical market, which has diameter 0.5" and height 9". If the box is filled with as many markers as possible, what percentage of the

space will be unused ?



A. 21.5 %

B. 24.6 %

C. 29.2 %

D. 31.8 %

Answer: C

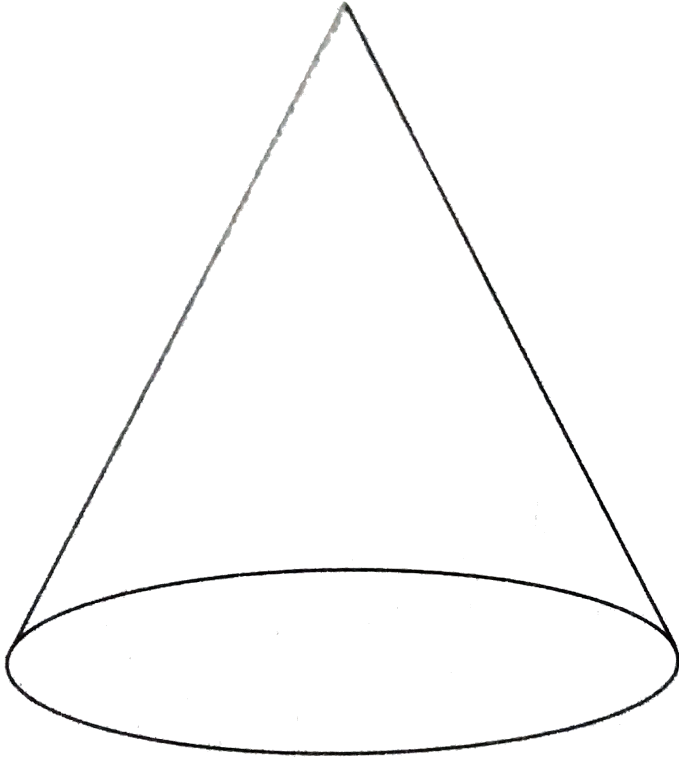


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Solid Geometry Follow Up Test

1. The lateral area of the right circular cone is 60π . If the radius of the base is 6, what is the

volume of the cone



A. 96π

B. 108π

C. 120π

D. 184π

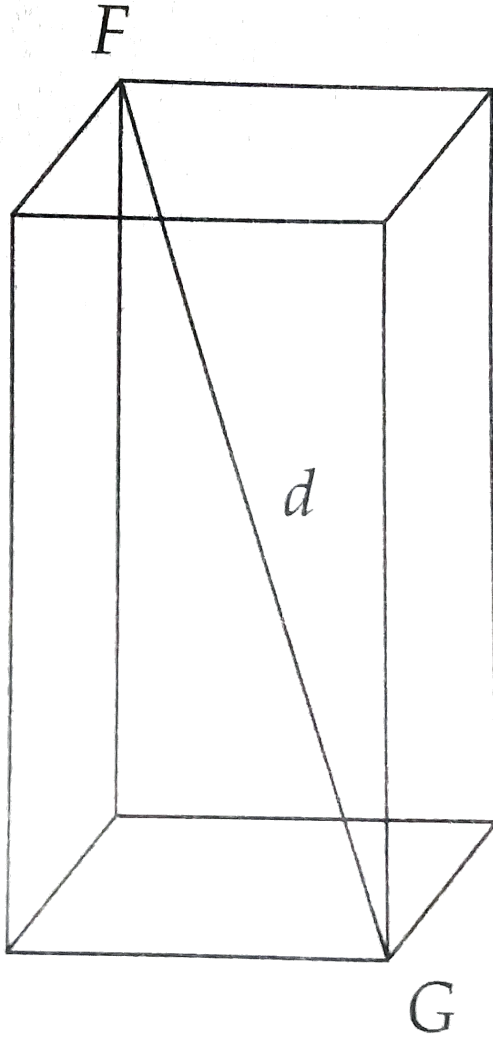
Answer: A



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2. D is the distance from vertex F to vertex G. The base is square, and the height is twice the width. What is the volume of the solid in terms

of d ?



A. $12d^3\sqrt{6}$

B. $10d^3\sqrt{5}$

C. $6d^3\sqrt{2}$

D. $\frac{d^3\sqrt{6}}{18}$

Answer: D



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3. A cube with edges of length b is divided into 8 equal smaller cubes. What is the difference between the combined surface area of the 8

smaller cubes and the surface area of the original cube ?

A. $\frac{3}{2}b^2$

B. $\frac{3}{4}b^2$

C. $\frac{9}{2}b^2$

D. $6b^2$

Answer: D



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4. When a right triangle of area 4 is rotated 360° about its longer leg, the solid that results has a volume of 16. What is the volume of the solid that results when the same right triangle is rotated about its shorter leg ?

A. 4.39

B. 8.77

C. 16.93

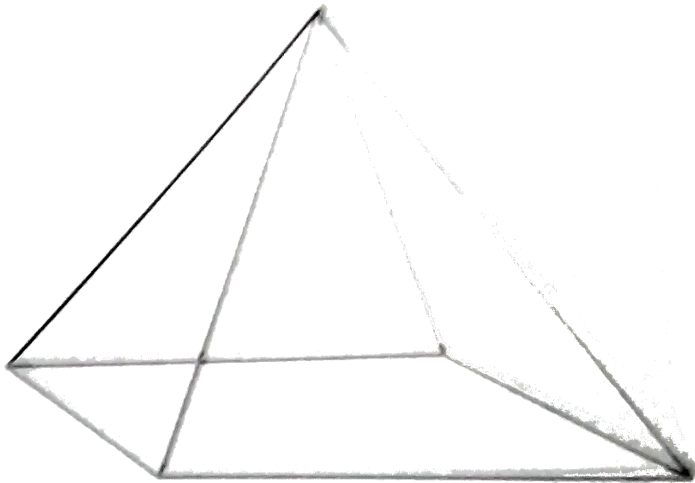
D. 35.09

Answer: D



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5. The pyramid in Figure composed of a square base of area 16 and four isocoles triangles, in which each base angle measures 60° . What is the volume of the pyramid ?



A. 7.39

B. 9.24

C. 15.08

D. 21.33

Answer: C



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