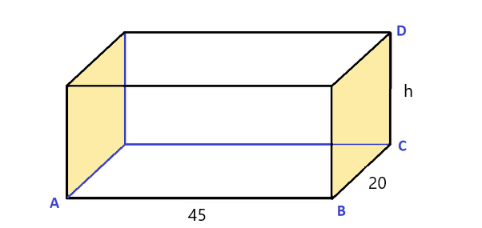
09. Solid Geometry

1. The area of a playground is sq. meters. What will be the cost of covering it with grass sheet cm deep, if cost of the grass sheet is per cubic meter?

Answer:

* Volume of grass required
* Total Cost

1. Cost of painting four walls of a room at per sq. m. is . Find the height of the room.

Answer:

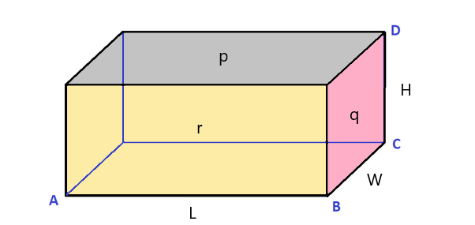
* Let the height of the room be
* Area to be painted
* Total cost

1. The perimeter of a circle is equal to the perimeter of a square. Find the ratio of their areas.

Answer:

* Let the radius of the circle be
* Let the side of the square be
* Ratio:

1. The areas of three adjacent faces of a rectangular box are p, q and r sq. cm. The volume of the box is given by

Answer:

* Let the edges of the box be
* Alternate solution: use dimensional analysis

1. A piece of metal in the form of rectangular solid weighs kg. What is the weight in kgs of a similar piece of same metal whose dimensions are twice those of the first piece?

Answer:

* Let the original solid be
* New solid
* Volume of original
* Volume of new
* So, if volume becomes times, the weight will also become times.
* New weight

1. Perimeter of square A is 2/3rd the perimeter of square B, and the perimeter of square B is 2/3rd perimeter of square C. If the area of square A is 16 sq. units, what is the area of square C?

Answer:

1. Three metal cubes whose edges are , and cm respectively are melted and molded without any loss of metal into a single cube. Find the edge of the new cube.

Answer:

* Volume of new solid

1. A cone of height cm and base of diameter cm is carved from a rectangular block of iron by by cm. Find the percentage of iron wasted.

Answer:

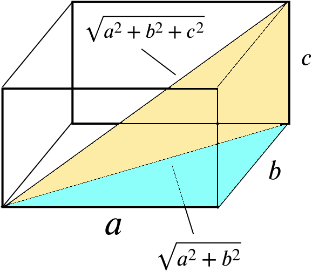
* Volume of cone
* Volume of bock
* Percentage of iron wasted

1. How many bricks each measuring and will be required to build a wall long, high and thick?

Answer:

* Volume of brick
* Volume of wall
* Number of bricks

1. A rectangular wooden box is wide, long and high. What is the greatest possible distance between any two points on the box?

Answer:

1. How many spherical show buttons of diameter can be made from a spherical ball of radius ?

Answer:

* Volume of buttons
* Volume of ball
* Number of buttons

1. The dimensions of a brick are , , and . How many bricks will be required to build a wall , and if of the wall is filled with mortar?

Answer:

* Volume of brick
* Volume of wall
* Volume of wall used by bricks
* Number of bricks

1. The radius of a right circular cylinder is increased by . What is the percentage increase in the volume?

Answer:

* Original Volume
* New Volume
* Percentage increase

1. The lower part of a tent is a right circular cylinder and the upper part is a right cone. The diameter of the base is and the total height is and the height of the cylindrical part is . Find the cost of the material at the rate of per sq. meter.

Answer:

* Curved surface area of cylinder
* Curved surface area of cone
* Total cost

1. A hemisphere of silver of radius is cast into a right circular cone of height . What is the radius of the base?

Answer:

* Volume of hemisphere
* Volume of cone

1. Half- cubic meter of gold sheet is extended by hammering so as to cover an area of one hectare. The thickness of the sheet is

Answer:

* Volume
* 1 hectare
* New volume

1. If each side of the cube is doubled, then its volume

Answer:

* Original side
* Original volume
* New side
* New Volume
* Solution: **becomes 8 times**

1. A tank long, wide and deep is dug in a field long and wide. If the earth dug out is evenly spread over the field, the rise in the level of the field will be

Answer:

* Volume of tank
* Area of the un-dug field
* Let the rise in the level be

1. The perimeter of a rectangular field is and its breadth is . The length of its diagonal in meters is

Answer:

* Perimeter
* Diagonal

1. A metallic sphere of radius is dropped into a cylindrical vessel filled with water up to a height of . If the height of the vessel is and its diameter is , find the rise in the level of water when the sphere is completely submerged.

Answer:

* Volume of sphere
* Rise of water level

1. The ice compartment of a refrigerator is long, wide and deep. How many ice cubes will it hold if edge of each cube is ?

Answer:

* Length wise
* Width wise
* Depth wise (note: the cubes must be inside the compartment)
* Total

1. If the radius of the base of a right circular cylinder is halved, keeping the height same, what is the ratio of the volume of the reduced cylinder to that of the original one?

Answer:

* Original Volume
* New Volume
* Ratio

1. The length, breadth and height of a cuboid is in the ratio of . If the total surface area is , find its volume.

Answer:

* Length Breadth Height
* Total surface area

1. If the dimensions of a rectangular crate, in feet, are by by , which of the following CANNOT be the sum of the surface areas of two of the faces?

Answer:

* Area of 1st face
* Area of 2nd face
* Area of 3rd face
* Area of 1st face & 1st face
* Area of 1st face & 2nd face
* Area of 1st face & 3rd face
* Area of 2nd face & 2nd face
* Area of 2nd face & 3rd face
* Area of 3rd face & 3rd face
* Solution:

1. The curved surface of the cylinder is three times the area of its base, while the height exceeds the radius by . Find the volume of the cylinder.

Answer:

* Curved surface area
* Area of base