35 Lecture - MTH101

Important Mcqs

What is the formula for finding the volume of a solid using the cylindrical shells method?

a) V = 2?rh

b) V = 2?rh + 2?r^2

c) V = ?r^2h

d) V = ?r^2

Answer: c) V = ?r^2h

When using the cylindrical shells method, what shape are the "shells" that are added up to find the volume of the solid?

a) Cylinders

b) Rectangles

c) Triangles

d) Spheres

Answer: a) Cylinders

When using the cylindrical shells method, what axis is typically used to form the cylinders?

a) x-axis

b) y-axis

c) z-axis

d) None of the above

Answer: a) x-axis

Which of the following is a necessary step when using the cylindrical shells method to find the volume of a solid?

a) Find the limits of integration

b) Take the derivative of the function

c) Solve for the area under the curve

d) None of the above

Answer: a) Find the limits of integration

When using the cylindrical shells method, what is typically the function used to find the height of the shells?

a) The function that defines the curve rotated about the axis

b) The function that defines the axis of rotation

c) The function that defines the radius of the shell

d) None of the above

Answer: a) The function that defines the curve rotated about the axis

What is the typical range of the radius when using the cylindrical shells method?

a) 0 to the length of the curve

b) 0 to infinity

c) 0 to the height of the curve

d) None of the above

Answer: a) 0 to the length of the curve

When using the cylindrical shells method, what is the typical range of the height of the shells?

a) 0 to the length of the curve

b) 0 to infinity

c) 0 to the height of the curve

d) None of the above

Answer: c) 0 to the height of the curve

What is the formula for finding the volume of a cylindrical shell?

a) V = 2?rh

b) V = 2?rh + 2?r^2

c) V = ?r^2h

d) V = ?r^2

Answer: c) V = ?r^2h

What is the main advantage of using the cylindrical shells method over other methods for finding volumes?

a) It is easier to set up

b) It is more accurate

c) It works for any solid of revolution

d) None of the above

Answer: c) It works for any solid of revolution

What is the typical shape of the cross-sections of the solid when using the cylindrical shells method?

a) Circles

b) Rectangles

c) Triangles

d) Spheres

Answer: a) Circles