37 Lecture - MTH101

Important Mcqs

What is the formula for finding the area of a surface	of revolution?
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A. A = 2? ? [a,b] f(x) dx

B.
$$A = 2?$$
? [a,b] $f(x)$?(1 + (f'(x))²) dx

C. A = ? ? [a,b] f(x) dx

D.
$$A = ? ? [a,b] f(x) ?(1 + (f'(x))^2) dx$$

Answer: B

What is the axis of rotation in the context of the surface area of a surface of revolution?

- A. The line or axis about which the curve is being rotated to form a three-dimensional shape.
- B. The line or axis about which the curve is being translated to form a two-dimensional shape.
- C. The line or axis about which the curve is being reflected to form a three-dimensional shape.
- D. The line or axis about which the curve is being projected to form a two-dimensional shape.

Answer: A

Can the formula for the surface area of a surface of revolution be used to find the surface area of a sphere?

A. Yes

B. No

Answer: A

In which field of study is the surface area of a surface of revolution commonly used?

- A. Biology
- B. Chemistry
- C. Physics
- D. Mathematics

Answer: D

What is the relationship between the surface area of a surface of revolution and calculus?

- A. The formula for the surface area of a surface of revolution is derived from calculus.
- B. Calculus has no relation to the surface area of a surface of revolution.
- C. The formula for the surface area of a surface of revolution is derived from geometry.
- D. Calculus and geometry are equally important in the surface area of a surface of revolution.

Answer: A

What is the practical application of the surface area of a surface of revolution in physics?

- A. Calculating the surface area of a rocket.
- B. Calculating the surface area of a baseball.
- C. Calculating the surface area of a sphere.
- D. Calculating the surface area of a light bulb.

Answer: A

What is the formula for finding the area of a surface of revolution when revolving around the y-axis?

A.
$$A = 2? ? [a,b] x ?(1 + (f'(x))^2) dx$$

B.
$$A = 2? ? [a,b] y dx$$

C.
$$A = 2?$$
? [a,b] $y ?(1 + (f'(x))^2) dx$

D.
$$A = 2? ? [a,b] x dx$$

Answer: C

What is the area of a surface of revolution formed by rotating the line y = 2x around the x-axis between x = 0 and x = 4??

- A. 32?
- B. 16?
- C. 8?
- D. 4?

Answer: B

Which shape has the greater surface area of revolution when rotated around the x-axis: y = x or $y = x^2$?

A.
$$y = x$$

B.
$$y = x^2$$

C. They have the same surface area of revolution.

D. It depends on the bounds of integration.

Answer: B

What is the relationship between the surface area of a surface of revolution and analytical geometry?

A. The formula for the surface area of a surface of revolution is derived from analytical geometry.

B. Analytical geometry has no relation to the surface area of a surface of revolution.

C. The formula for the surface area of a surface of