## 37 Lecture - MTH101

## Important Mcqs

What is the formula for finding the area of a surface of revolution?
A. $A=2 ? ?[a, b] f(x) d x$
B. $A=2 ? ?[a, b] f(x) ?\left(1+(f(x))^{2}\right) d x$
C. $A=? ?[a, b] f(x) d x$
D. $A=? ?[a, b] f(x) ?\left(1+\left(f^{\prime}(x)\right)^{2}\right) d x$

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. $A=2 ? ?[\mathrm{a}, \mathrm{b}] \mathrm{x} ?\left(1+\left(\mathrm{f}^{\prime}(\mathrm{x})\right)^{2}\right) \mathrm{dx}$
B. $A=2 ? ?[a, b] y d x$
C. $A=2 ? ?[a, b] y ?\left(1+\left(f^{\prime}(x)\right)^{2}\right) d x$
D. $A=2 ? ?[a, b] x d x$

Answer: C

What is the area of a surface of revolution formed by rotating the line $y=2 x$ 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: $\mathrm{y}=\mathrm{x}$ or $\mathrm{y}=\mathrm{x}^{2}$ ?
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

