28 Lecture - MTH101

Important Mcqs

What is the formula for finding the area of a shape using the concept of limits?

A. A = length x width

B. $A = \lim_{n\to\infty} \{n \setminus \{i=1\} \land f(x_i) \setminus Delta x\}$

C. A = (base x height) / 2

D. $A = pi x radius^2$

Answer: B

What is the relationship between the width of the rectangles and the accuracy of the approximation?

- A. The wider the rectangles, the more accurate the approximation
- B. The narrower the rectangles, the more accurate the approximation
- C. The width of the rectangles has no effect on the accuracy of the approximation
- D. The accuracy of the approximation is determined by the shape of the curve

Answer: B

How does the concept of area as a limit help to approximate the area under a curve?

- A. By dividing the shape into smaller and smaller circles
- B. By dividing the shape into smaller and smaller rectangles
- C. By dividing the shape into smaller and smaller triangles
- D. By using the Pythagorean theorem to find the area of the shape

Answer: B

What is the practical application of the concept of area as a limit in physics?

- A. To find the area of a rectangle
- B. To find the area of a circle

- C. To find the displacement of an object
- D. To find the volume of a sphere

Answer: C

What is the significance of the concept of area as a limit in calculus and analytical geometry?

- A. It allows us to find the volume of a sphere
- B. It allows us to find the circumference of a circle
- C. It allows us to find the area under curves and more complex shapes
- D. It allows us to find the slope of a curve at a given point

Answer: C

How can the concept of area as a limit be applied to more complex shapes?

- A. By dividing the shape into smaller and smaller rectangles
- B. By dividing the shape into smaller and smaller circles
- C. By dividing the shape into smaller and smaller triangles
- D. By using the Pythagorean theorem to find the area of the shape

Answer: C

What is the formula for finding the area of a triangle?

- A. A = length x width
- B. A = (base x height) / 2
- C. $A = pi x radius^2$
- $D. \ A = lim_{n\to\infty} \sum_{i=1}^n f(x_i) \ Delta \ x$

Answer: B

How does the limit of the sum of the areas of triangles help to approximate the area of a complex shape?

- A. By dividing the shape into smaller and smaller triangles
- B. By dividing the shape into smaller and smaller rectangles

- C. By dividing the shape into smaller and smaller circles
- D. By using the Pythagorean theorem to find the area of the shape

Answer: A

What are some real-world applications of the concept of area as a limit?

- A. Solving problems involving irregular shapes and curves in physics
- B. Calculating the circumference of a circle in engineering
- C. Finding the area of a rectangle in economics
- D. Determining the volume of a cylinder in mathematics

Answer: A

What is the mathematical formula for finding the area of a circle?

- A. A = length x width
- B. A = (base x height) / 2
- C. $A = pi x radius^2$
- D. $A = \lim_{n\to\infty} \{n \setminus infty\} \setminus \{i=1\}^n f(x_i) \setminus Delta x$