

MATH Exam Paper

Subjective Questions

1. What is the Pythagorean theorem and explain its application?

Answer:

2. Derive the quadratic formula from the general form of a quadratic equation.

Answer:

3. Explain the concept of limits in calculus.

Answer:

4. Solve the following system of equations using substitution method: $2x + y = 10$ and $3x - y = 5$.

Answer:

5. What are eigenvalues and eigenvectors? Provide an example.

Answer:

6. Describe the difference between permutations and combinations.

Answer:

7. What is the fundamental theorem of algebra?

Answer:

8. Explain how the binomial theorem can be used to expand expressions.

Answer:

9. Find the derivative of the function $f(x) = x^3 + 5x^2 - 2x + 7$.

Answer:

10. Explain the concept of mathematical induction and prove the sum formula for the first n integers.

Answer:

11. Formula of circle?

Answer:

12. What is the formula of a triangle?

Answer:

MCQ Questions

13. What is $2 + 2$?

a) 3

b) 4

c) 5

d) 6

14. What is the derivative of x^2 ?

a) 1

b) $2x$

c) x^2

d) $2x^2$

15. Solve for x: $5x - 10 = 0$

a) $x = 0$

b) $x = 2$

c) $x = 10$

d) $x = -2$

16. What is the value of pi?

a) 3.14

b) 3.1416

c) 3.14159

d) 3.141

17. What is the area of a circle with radius 3?

a) 9π

b) 6π

c) 3π

d) π
