

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 $f(x) = x^3 + 5x^2 - 2x + 7$.

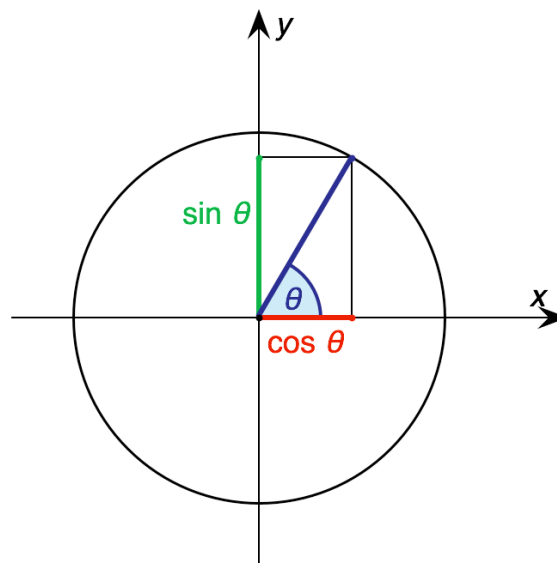
Answer:

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

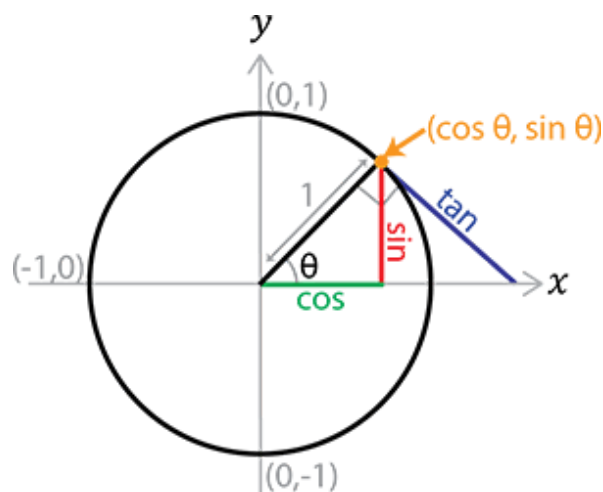
Answer:

Diagram Questions

11. What is the structure of a cell?



12. Draw the circuit diagram of a series circuit.



13. Illustrate the water cycle diagram.

