

# 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:

---

13. abcdefghi

---

Answer:

---

14. hjaskfasf

---

Answer:

---

15. musadiq balouch

---

Answer:

---

### MCQ Questions

16. What is  $2 + 2$ ?

a) 4

b) 5

c) 6

d) 7

---

17. What is  $5 * 6$ ?

a) 25

b) 30

c) 35

d) 40

---

18. What is the square root of 16?

a) 2

b) 4

c) 6

d) 8

---

19. What is  $12 / 4$ ?

a) 2

b) 3

c) 4

d) 5

---

20. What is  $9 + 10$ ?

a) 18

b) 19

c) 20

d) 21

---

21. abcdefgjijlm

a) a

b) b

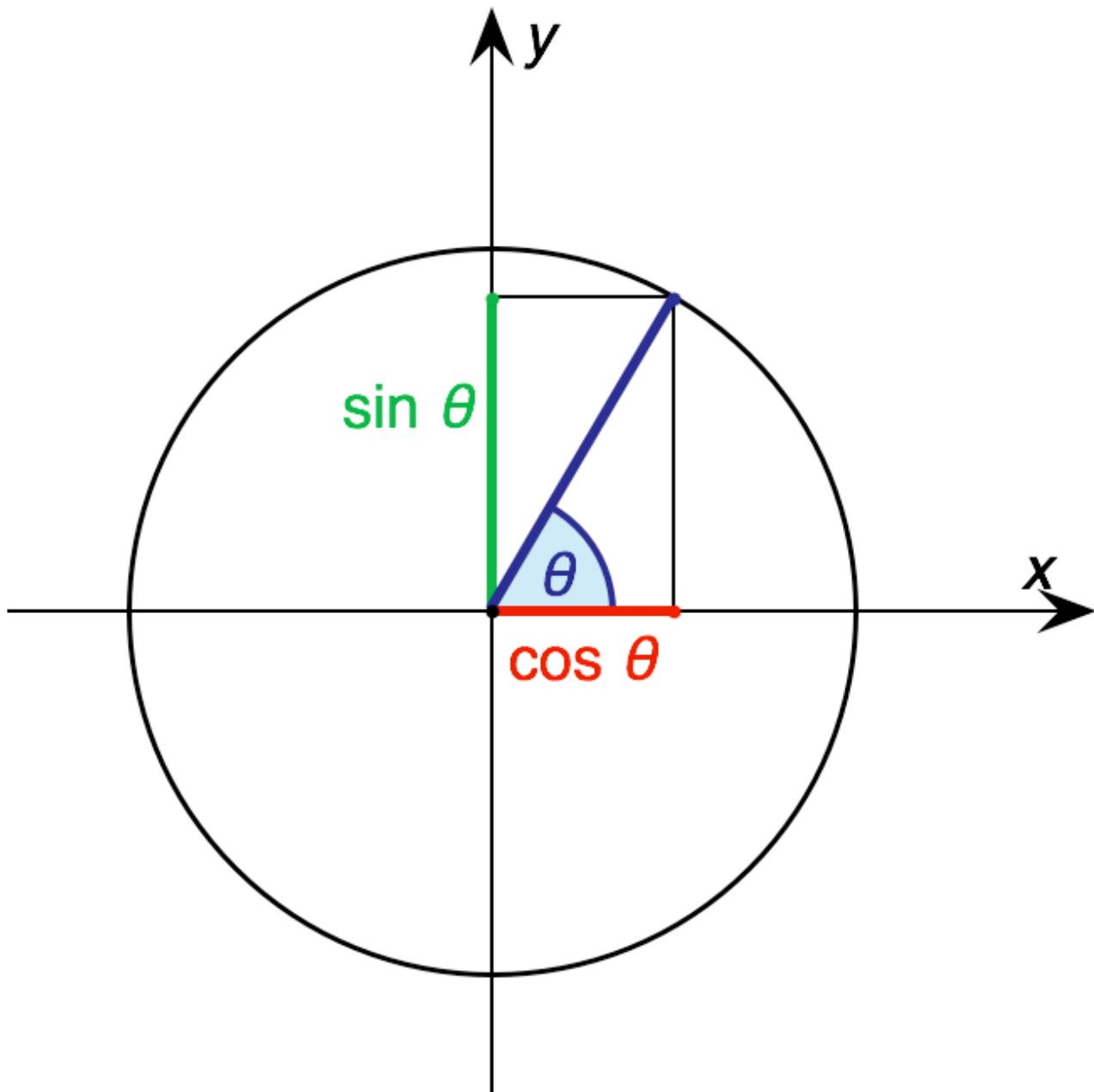
c) c

d) d

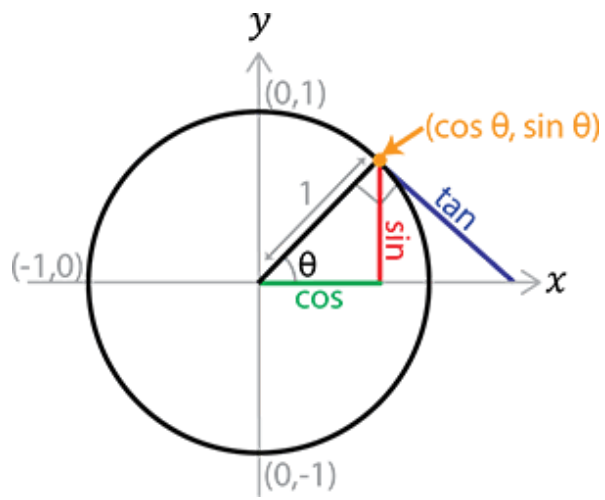
---

### Diagram Questions

22. What is the structure of a cell?



23. Draw the circuit diagram of a series circuit.



24. Illustrate the water cycle diagram.

