

SMETA MATHEMATICS OLYMPIAD

SAMPLE PAPER

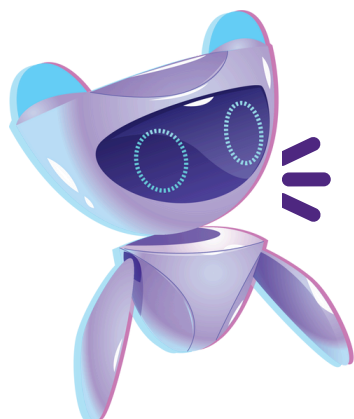
GRADE 7-8



SMETA
OLYMPIADS

INSTRUCTIONS FOR THE PAPER

- 1.Total Questions: 25
- 2.Marks Distribution: Each question carries 2 marks.
- 3.Total Marks: 50
- 4.Time Allowed: 60 minutes
- 5.Marking Scheme:
- 6.Correct Answer: +2 marks
- 7.Wrong Answer: -1 mark (negative marking applies)
- 8.Unattempted Questions: No marks deducted
- 9.General Guidelines:
- 10.All questions are MCQs-based, with four options provided for each.
- 11.Read each question carefully and select the correct option (a, b, c, or d).
- 12.Do not mark two options for a single question; only one answer will be considered.
- 13.Ensure all answers are marked clearly.
- 14.Submission Instructions:
- 15.Attempt all questions within the given time.
- 16.Recheck your answers before submission to ensure accuracy.
- 17.Note: Negative marking is applied for incorrect answers, so choose wisely!



BEST OF LUCK!

CHOOSE THE CORRECT ANSWER

1. A hiker starts at an elevation of 120 meters above sea level and descends into a valley 350 meters below sea level. He then climbs 250 meters and descends another 50 meters. What is his final elevation relative to sea level?

- a) 30 m
- b) -30 m
- c) -50 m
- d) -80 m

2. A cylindrical drum is 2 m in diameter and 5 m high. Water is poured into it at the rate of 1 cubic meter per minute. How long will it take to fill the drum?

- a) 10 minutes
- b) 12 minutes
- c) 15 minutes
- d) 16 minutes

3. An athlete runs 2.5 km on Monday, 3.75 km on Tuesday, and 4.6 km on Wednesday. If her goal is to run 12.5 km in total for the week, how many more kilometers does she need to run?

- a) 1.15 km
- b) 1.65 km
- c) 1.75 km
- d) 2.05 km

4. A car's fuel tank holds 50 liters of fuel. If the car consumes 7.5 liters per 100 km, how far can it travel on a full tank?

- a) 600 km
- b) 650 km
- c) 675 km
- d) 700 km

5. David loves to make sandwiches for breakfast. Normally, it takes him 9 minutes to make 3 sandwiches. He had some friends sleep over last night, and he wants to make 10 sandwiches this morning. If the sandwiches cook at the same rate, how many minutes will it take Xavier to make the sandwiches this morning?

- a) 20 minutes
- b) 30 minutes
- c) 40 minutes
- d) 50 minutes

6. A triangle has sides of length 7 cm, 24 cm, and 25 cm. What is its area?

- a) 60 cm²
- b) 70 cm²
- c) 84 cm²
- d) 100 cm²

7. The angles of a quadrilateral are in the ratio 1:2:3:4. Find the smallest angle.

- a) 36°
- b) 60°
- c) 75°
- d) 90°

8. A swimming pool is 20 m long, 10 m wide, and 2 m deep. How many liters of water are required to fill it? (1 m³ = 1000 liters)

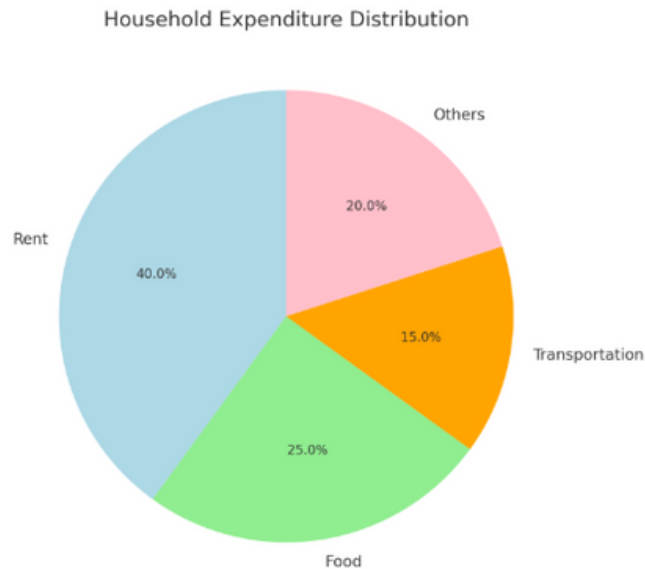
- a) 400,000 liters
- b) 200,000 liters
- c) 300,000 liters
- d) 500,000 liters

9. The following data shows test scores of 8 students: 45, 50, 60, 50, 70, 65, 80, 90. What is the median score?

- a) 65
- b) 60
- c) 62.5
- d) 70

10. Below pie chart shows the expenditure of a household as follows:

Rent: 40%, Food: 25%, Transportation: 15%, Others: 20%. If the total monthly income is \$2000, how much is spent on food?



- A) \$500
- B) \$400
- C) \$600
- D) \$450

11. A shopkeeper buys a product for \$200 and marks it at \$300. He offers a discount of 20%. What is the shopkeeper's profit percentage?

- a) 20%
- b) 25%
- c) 30%
- d) 40%

12. If the price of a shirt is increased by 20%, and then decreased by 15%, what is the net change in price?

- a) 2% increase
- b) 3% decrease
- c) 1% increase
- d) 4% increase

13. A student scored 75, 80, 85, 90, and 100 in five exams. What is the mean score?

- a) 85
- b) 86
- c) 87
- d) 88

14. A sequence follows the pattern: 2, 6, 12, 20, 30, What will be the 8th term in this sequence?

- a) 72
- b) 56
- c) 62
- d) 64

15. Monica makes tomato sauce with the plants she grows in her garden. She uses 3 basil leaves in her sauce for every 8 tomatoes. She is making a big batch of sauce with 32 tomatoes from her garden. How many basil leaves should Monica use in her sauce?

- a) 10
- b) 12
- c) 14
- d) 16

16. Find the missing number: 5, 10, 17, 26, 37, ...?

- a) 49
- b) 50
- c) 52
- d) 54

17. Sam is twice as old as Tom, and their combined age is 36 years. How old is Tom?

- A) 9 years
- B) 12 years
- C) 18 years
- D) 24 years

18. 22 students are going on a field trip and 7 students are staying at school. What is the ratio of the number of students who are going on the field trip to the number of students who are staying at school?

- A) 22:15
- B) 29:7
- C) 44:7
- D) 22:7

Read the below paragraph and answer below questions (19-21).

A customer visits a store that is offering a 30% discount on all items. The original price of a jacket is \$120. The customer also buys a pair of shoes for \$80. If the customer also applies a 10% coupon on the total price after the discount, how much does the customer pay in total?

19. What is the price of the jacket after the 30% discount?

- A) \$90
- B) \$96
- C) \$84
- D) \$110

20. What is the total price of the jacket and shoes before applying the 10% coupon?

- A) \$200
- B) \$180
- C) \$164
- D) \$150

21. How much does the customer pay after applying the 10% coupon?

- A) \$162
- B) \$144
- C) \$150
- D) \$147

Read the below sentence and answer the questions (22 and 23).

A jar contains 100 coins consisting of Rs. 5 and Rs. 10 coins. The total value of the coins is Rs. 700.

22. How many Rs. 10 coins are in the jar?

- A) 30
- B) 40
- C) 50
- D) 60

23. If 10 Rs. 5 coins are removed, what will be the new total value of the coins?

- A) Rs. 650
- B) Rs. 600
- C) Rs. 620
- D) Rs. 640

Read the below paragraph and answer the questions (24 and 25).

Rainwater Harvesting:

A rectangular water tank in a schoolyard is used to collect rainwater. The tank has dimensions 6 m in length, 4 m in width, and 2 m in height. The school decided to install a filtration system, which can filter 500 liters of water every hour.

During a heavy rainfall, the tank fills completely. The water is then filtered and stored for later use.

Questions:

24. What is the total capacity of the tank in liters?

- a) 36,000 liters
- b) 48,000 liters
- c) 56,000 liters
- d) 72,000 liters

25. How many hours will it take for the filtration system to filter all the water in the tank?

- a) 50 hours
- b) 60 hours
- c) 70 hours
- d) 96 hours

ANSWER KEY

- 1.B) -30 M
- 2.D) 16 MINUTES
- 3.B) 1.65 KM
- 4.C) 675 KM
- 5.B) 30 MINUTES
- 6.C) 84 CM²
- 7.A) 36°
- 8.A) 400,000 LITERS
- 9.C) 62.5
- 10.A) \$500
- 11.A) 20%
- 12.B) 12
- 13.B) 86
- 14.A) 72
- 15.A) 1518127145
- 16.B) 50
- 17.B) 12 YEARS
- 18.D) 22:7
- 19.C) \$84
- 20.C) \$164
- 21.D) \$147
- 22.B) 40
- 23.A) RS. 650
- 24.B) 48000 LITERS
- 25.D) 96 HOURS