

# INTERNATIONAL TALENT SEARCH EXAMINATION

## Class VII Mathematics Question Set

1. **Commutative Property**

Which of the following is correct?

- A)  $3+5=5+3$  and  $33 + 5 = 5 + 33$
- B)  $4+6=6+4$  and  $44 + 6 = 6 + 44$
- C) Both A and B
- D) None of these

2. **Volume of a Cube**

If the side of a cube is 4 cm, what is its volume?

(Diagram: A cube with labeled side length)

- A)  $16 \text{ cm}^3$
- B)  $32 \text{ cm}^3$
- C)  $64 \text{ cm}^3$
- D)  $48 \text{ cm}^3$

3. **Addition of Fractions**

What is  $14\frac{1}{4} + \frac{2}{4}$ ?

- A)  $34\frac{3}{4}$
- B) 111
- C)  $12\frac{1}{2}$
- D) None of these

4. **Area of a Rectangle**

If the length is 10 cm and the width is 5 cm, find the area.

(Diagram: Rectangle with labeled dimensions)

- A)  $50 \text{ cm}^2$
- B)  $55 \text{ cm}^2$
- C)  $60 \text{ cm}^2$
- D) None of these

5. **Perimeter of a Triangle**

A triangle has sides of lengths 5 cm, 12 cm, and 13 cm. What is its perimeter?

(Diagram: Triangle with labeled sides)

- A) 30 cm
- B) 28 cm
- C) 26 cm
- D) None of these

6. **Multiplication of Decimals**

What is  $2.5 \times 0.4$ ?

- A) 1.0
- B) 1.5
- C) 2.0
- D) None of these

7. **Simple Interest Calculation**

If you invest Rs. 1000 at an interest rate of 5% per annum for 2 years, what is the simple interest?

(Diagram: Money bag with interest calculation)

- A) Rs. 100
- B) Rs. 200
- C) Rs. 150
- D) None of these

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### 8. Proportions

If  $a:b=2:3$  and  $b:c=3:4$ , find  $a:c$ .

- A) 2:4
- B) 2:6
- C) 3:4
- D) None of these

### 9. Finding the Mean

Find the mean of the numbers 2, 3, 5, 7, 8.

- A) 4.5
- B) 5
- C) 6
- D) None of these

### 10. Percentages

What is 20% of 150?

- A) 25
- B) 30
- C) 20
- D) 15

### 11. Line Symmetry

Which of the following shapes has line symmetry?

(Diagram: Shapes like a butterfly, rectangle, and random shape)

- A) Butterfly
- B) Random shape
- C) Rectangle
- D) Both A and C

### 12. Circle Area Calculation

What is the area of a circle with a radius of 7 cm?

(Diagram: Circle with radius labeled)

- A)  $154 \text{ cm}^2$
- B)  $144 \text{ cm}^2$
- C)  $100 \text{ cm}^2$
- D) None of these

### 13. Probability

If a bag contains 3 red and 2 blue balls, what is the probability of picking a red ball?

- A)  $\frac{3}{5}$
- B)  $\frac{2}{5}$
- C)  $\frac{1}{2}$
- D) None of these

### 14. Ratios

Simplify the ratio 20:45.

- A) 4:9
- B) 2:5
- C) 1:2
- D) None of these

### 15. Exponents

What is  $2^3 \times 3^2$ ?

- A) 6
- B) 8
- C) 4
- D) 3

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### 16. Finding Angles

If  $\angle A = 40^\circ$  and  $\angle B = 60^\circ$ , what is  $\angle C$  in triangle ABC?

(Diagram: Triangle ABC with angles labeled)

- A)  $80^\circ$
- B)  $90^\circ$
- C)  $100^\circ$
- D)  $120^\circ$

### 17. Graph Interpretation

(Diagram: A bar graph showing sales data for four products)

What is the highest selling product?

- A) Product A
- B) Product B
- C) Product C
- D) Product D

### 18. Distance Calculation

A car travels 60 km in 1 hour. How far will it travel in 4 hours?

- A) 240 km
- B) 180 km
- C) 150 km
- D) None of these

### 19. Finding LCM

Find the least common multiple of 6 and 8.

- A) 12
- B) 24
- C) 36
- D) 48

### 20. Volume of Cylinder

What is the volume of a cylinder with radius 3 cm and height 5 cm?

(Diagram: Cylinder with labeled dimensions)

- A)  $45 \text{ cm}^3$
- B)  $28.26 \text{ cm}^3$
- C)  $84.78 \text{ cm}^3$
- D) None of these

### 21. Prime Numbers

How many prime numbers are there between 1 and 20?

- A) 8
- B) 7
- C) 6
- D) 5

### 22. Finding the Median

Find the median of the following set: 1, 3, 3, 6, 7, 8, 9.

- A) 3
- B) 6
- C) 7
- D) 5

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**23. Finding HCF**

What is the highest common factor of 12 and 15?

- A) 3
- B) 4
- C) 6
- D) None of these

**24. Triangle Types**

Classify triangle ABC based on its angles if  $\angle A = 90^\circ$ .

- A) Acute
- B) Right
- C) Obtuse
- D) None of these

**25. Algebraic Expressions**

Simplify  $2x + 3x - 5$  and  $3x - 5$ .

- A)  $5x - 5$
- B)  $5x$
- C)  $-5$
- D) None of these

**26. Finding the Missing Number**

If  $5 + x = 12$ , what is  $x$ ?

- A) 5
- B) 7
- C) 10
- D) 12

**27. Graph of a Function**

(Diagram: A simple graph showing  $y = x^2$ )

What shape does this graph represent?

- A) Straight line
- B) Parabola
- C) Circle
- D) None of these

**28. Divisibility Rule**

Which of the following numbers is divisible by 3?

- A) 124
- B) 126
- C) 128
- D) 130

**29. Surface Area of a Cube**

What is the surface area of a cube with side length 4 cm?

- A)  $96 \text{ cm}^2$
- B)  $64 \text{ cm}^2$
- C)  $48 \text{ cm}^2$
- D)  $32 \text{ cm}^2$

**30. Constructing a Histogram**

(Diagram: Data for a histogram)

Draw a histogram based on the data provided.

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### 31. Identifying Quadrilaterals

Which of the following is a parallelogram?  
(Diagram: Various quadrilaterals labeled)

- A) Rectangle
- B) Square
- C) Rhombus
- D) All of the above

### 32. Finding Roots

What is the square root of 49?

- A) 5
- B) 6
- C) 7
- D) 8

### 33. Percent Increase

If a product costs Rs. 200 and increases by 10%, what is the new price?

- A) Rs. 210
- B) Rs. 220
- C) Rs. 240
- D) Rs. 200

### 34. Finding Circumference

What is the circumference of a circle with a diameter of 10 cm?  
(Diagram: Circle with diameter labeled)

- A) 31.4 cm
- B) 20 cm
- C) 15.7 cm
- D) None of these

### 35. Order of Operations

What is the value of  $2+3\times 42 + 3 \times 42+3\times 4$ ?

- A) 14
- B) 20
- C) 18
- D) 26

### 36. Finding the Mode

Find the mode of the numbers: 2, 3, 4, 4, 5, 6.

- A) 4
- B) 5
- C) 6
- D) 3

### 37. Measurement Conversion

Convert 5 kilometers to meters.

- A) 500 m
- B) 5000 m
- C) 50 m
- D) None of these

### 38. Finding Complementary Angles

What is the complementary angle of  $30^\circ$ ?

- A)  $60^\circ$
- B)  $90^\circ$
- C)  $120^\circ$
- D) None of these

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### 39. Equations

Solve for  $x$ :  $3x - 5 = 10$

- A) 5
- B) 6
- C) 7
- D) 8

### 40. Order of Operations

What is  $(8+4) \div 2 \times 3(8+4) \div 2 \times 3$ ?

- A) 18
- B) 12
- C) 24
- D) None of these

### 41. Identifying 3D Shapes

(Diagram: Various 3D shapes like cube, cylinder, and sphere)  
Which shape has no edges?

- A) Cube
- B) Cylinder
- C) Sphere
- D) Cone

### 42. Identifying Patterns

What is the next number in the series: 2, 4, 8, 16?

- A) 24
- B) 32
- C) 40
- D) None of these

### 43. Finding the Range

Find the range of the following numbers: 10, 20, 5, 30.

- A) 25
- B) 30
- C) 20
- D) None of these

### 44. Understanding Variables

If  $y = 2x + 3$ , what is  $y$  when  $x = 4$ ?

- A) 8
- B) 10
- C) 11
- D) 14

### 45. Comparing Numbers

Which is greater:  $3\frac{3}{4}$  or  $2\frac{2}{3}$ ?

- A)  $3\frac{3}{4}$
- B)  $2\frac{2}{3}$
- C) Both are equal
- D) None of these