

Here's the **Grade 6 Math Competition - Multiple Choice** with **35 questions**, divided into **Number Theory, Logic, Geometry, Arithmetic, and Combinatorics**.

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### **Grade 6 Math Competition - Multiple Choice**

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#### **1-5: Number Theory**

1. What is the prime factorization of 60?

- a)  $2 \times 2 \times 3 \times 5$
- b)  $2 \times 2 \times 2 \times 3 \times 5$
- c)  $3 \times 5 \times 4$
- d)  $2 \times 3 \times 5$

**Answer: b)  $2 \times 2 \times 3 \times 5$**

2. What is the greatest common divisor (GCD) of 18 and 24?

- a) 2
- b) 4
- c) 6
- d) 8

**Answer: c) 6**

3. What is the least common multiple (LCM) of 12 and 15?

- a) 30
- b) 45
- c) 60
- d) 180

**Answer: c) 60**

4. What is the sum of the first 6 prime numbers?

- a) 30
- b) 35
- c) 41
- d) 42

**Answer: c) 41**

5. What is the smallest number divisible by both 5 and 7?

- a) 10
- b) 15
- c) 20

d) 35

**Answer: d) 35**

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#### 6-10: Logic

6. What number comes next in the sequence: 2, 6, 12, 20, \_?

a) 28

b) 30

c) 32

d) 36

**Answer: b) 30**

7. If  $5x = 20$ , what is the value of  $x$ ?

a) 4

b) 5

c) 10

d) 20

**Answer: a) 4**

8. What is the sum of the digits in the number 567?

a) 15

b) 16

c) 17

d) 18

**Answer: a) 18**

9. What is the next number in the pattern: 100, 90, 80, 70, \_?

a) 60

b) 65

c) 75

d) 85

**Answer: a) 60**

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

a)  $3/5$

b)  $2/5$

c)  $1/5$

d)  $3/4$

**Answer: a) 3/5**

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### 11-15: Geometry

11. What is the perimeter of a rectangle with length 12 units and width 7 units?

- a) 36 units
- b) 38 units
- c) 40 units
- d) 42 units

**Answer: b) 38 units**

12. What is the area of a triangle with a base of 8 units and a height of 5 units?

- a) 20 square units
- b) 30 square units
- c) 40 square units
- d) 50 square units

**Answer: a) 20 square units**

13. How many sides does a regular octagon have?

- a) 6
- b) 7
- c) 8
- d) 9

**Answer: c) 8**

14. What is the volume of a rectangular prism with length 5 units, width 3 units, and height 2 units?

- a) 15 cubic units
- b) 30 cubic units
- c) 10 cubic units
- d) 25 cubic units

**Answer: b) 30 cubic units**

15. What is the area of a circle with radius 4 units? (Use  $\pi \approx 3.14$ )

- a) 50.24 square units
- b) 14.56 square units
- c) 15.56 square units
- d) 16.56 square units

**Answer: a) 50.24 square units**

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## 16-20: Arithmetic

16. What is  $76 \times 8$ ?

- a) 608
- b) 680
- c) 650
- d) 700

**Answer: a) 608**

17. What is  $567 + 432$ ?

- a) 999
- b) 1000
- c) 1022
- d) 1011

**Answer: a) 999**

18. What is the result of  $500 \div 25$ ?

- a) 20
- b) 25
- c) 50
- d) 75

**Answer: a) 20**

19. What is the value of 15% of 200?

- a) 25
- b) 30
- c) 35
- d) 40

**Answer: b) 30**

20. What is the sum of 254 and 745?

- a) 999
- b) 1010
- c) 1009
- d) 1025

**Answer: a) 999**

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## 21-25: Combinatorics

21. How many ways can you arrange the letters in the word "MATH"?

- a) 12
- b) 24
- c) 30
- d) 36

**Answer: b) 24**

22. How many ways can you choose 3 objects from a set of 7?

- a) 35
- b) 40
- c) 50
- d) 20

**Answer: a) 35**

23. How many different outfits can you make with 4 shirts and 3 pants?

- a) 9
- b) 10
- c) 12
- d) 15

**Answer: c) 12**

24. How many ways can you arrange the digits 1, 2, and 3?

- a) 3
- b) 6
- c) 9
- d) 12

**Answer: b) 6**

25. How many ways can you choose 2 books from a shelf of 5 books?

- a) 6
- b) 10
- c) 12
- d) 15

**Answer: a) 10**

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## 26-30: Number Theory

26. What is the prime factorization of 84?

- a)  $2 \times 2 \times 3 \times 7$
- b)  $2 \times 3 \times 5 \times 7$

c)  $2 \times 2 \times 2 \times 3 \times 7$

d)  $3 \times 5 \times 7$

**Answer: a)  $2 \times 2 \times 3 \times 7$**

27. What is the least common multiple of 20 and 30?

a) 40

b) 60

c) 120

d) 150

**Answer: b) 60**

28. What is the greatest common divisor (GCD) of 45 and 60?

a) 5

b) 10

c) 15

d) 20

**Answer: c) 15**

29. What is the sum of the factors of 36?

a) 60

b) 70

c) 80

d) 91

**Answer: d) 91**

30. What is the number of divisors of 72?

a) 8

b) 9

c) 12

d) 18

**Answer: c) 12**

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### 31-35: Geometry & Arithmetic

31. What is the area of a rectangle with a length of 15 units and a width of 6 units?

a) 75 square units

b) 80 square units

c) 90 square units

d) 100 square units

**Answer: a) 90 square units**

32. What is the perimeter of a triangle with sides of length 7, 8, and 9 units?

- a) 24 units
- b) 25 units
- c) 26 units
- d) 27 units

**Answer: b) 24 units**

33. What is the area of a circle with a radius of 7 units? (Use  $\pi \approx 3.14$ )

- a) 143.96 square units
- b) 153.94 square units
- c) 154 square units
- d) 154.98 square units

**Answer: b) 153.94 square units**

34. If a car travels 80 miles per hour, how long will it take to travel 320 miles?

- a) 3 hours
- b) 4 hours
- c) 5 hours
- d) 6 hours

**Answer: b) 4 hours**

35. What is the value of 60% of 450?

- a) 250
- b) 270
- c) 300
- d) 320

**Answer: b) 270**