

Grade 4 Math Worksheet 1: Factors & Multiples -Types of Numbers (Advanced Level)

Name: _____

Date: _____

Part 1: Factors and Prime Factorization

1. What is the prime factorization of 180?

- a) $2 \times 2 \times 3 \times 3 \times 5$
 - b) $2 \times 3 \times 5 \times 5$
 - c) $2 \times 3 \times 5 \times 7$
 - d) $2 \times 2 \times 3 \times 5 \times 5$
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2. What is the greatest common factor (GCF) of 120 and 150?

- a) 10
 - b) 20
 - c) 30
 - d) 60
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3. Find the prime factorization of 144.

- a) $2 \times 2 \times 2 \times 2 \times 3 \times 3$
 - b) $2 \times 2 \times 3 \times 3 \times 3$
 - c) $3 \times 3 \times 2 \times 2$
 - d) $2 \times 3 \times 5 \times 5$
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4. What is the greatest common factor (GCF) of 48 and 60?

- a) 6

- b) 12
 - c) 24
 - d) 48
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5. What is the prime factorization of 150?

- a) $2 \times 2 \times 3 \times 5 \times 5$
 - b) $2 \times 3 \times 5 \times 5$
 - c) $3 \times 3 \times 5 \times 5$
 - d) $2 \times 3 \times 5$
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Part 2: Least Common Multiple (LCM)

6. What is the LCM of 9 and 12?

- a) 18
 - b) 36
 - c) 72
 - d) 144
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7. Find the LCM of 8, 12, and 16.

- a) 48
 - b) 96
 - c) 144
 - d) 192
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8. What is the least common multiple (LCM) of 15 and 20?

- a) 30
 - b) 60
 - c) 75
 - d) 100
-

9. Find the LCM of 24, 36, and 54.

- a) 72
- b) 108

- c) 180
 - d) 216
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10. What is the LCM of 6, 8, and 10?

- a) 20
 - b) 40
 - c) 60
 - d) 120
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Part 3: Word Problems

11. The least common multiple (LCM) of two numbers is 72, and their greatest common factor (GCF) is 18. If one of the numbers is 36, what is the other number?

- a) 18
 - b) 24
 - c) 48
 - d) 72
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12. Emma is organizing a fundraiser. She is arranging tables for the event. She wants to set up the tables in rows of 6, 8, and 12. What is the smallest number of rows she can have so that each row has an equal number of tables?

- a) 24
 - b) 48
 - c) 72
 - d) 96
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13. Two playgrounds are being built. One playground is 84 meters long and the other is 126 meters long. What is the greatest common factor (GCF) of 84 and 126?

- a) 6
- b) 12
- c) 18
- d) 42

14. A teacher has 56 pencils and 84 erasers. She wants to pack them into boxes with an equal number of pencils and erasers. What is the greatest number of pencils and erasers she can pack into each box?

- a) 7
 - b) 8
 - c) 14
 - d) 28
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15. You have 36 cupcakes and 48 cookies. You want to divide them into packages with an equal number of cupcakes and an equal number of cookies. What is the greatest number of cupcakes and cookies you can put in each package?

- a) 4
 - b) 6
 - c) 12
 - d) 18
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Part 4: True or False

16. The number 1 is a prime number.

- a) True
 - b) False
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17. 36 is a factor of 72.

- a) True
 - b) False
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18. The number 35 is a composite number.

- a) True
 - b) False
-

19. 100 is a multiple of 25.

- a) True
 - b) False
-

20. 49 is a perfect square.

- a) True
 - b) False
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Part 5: Prime and Composite Numbers

21. Which of the following is a prime number?

- a) 21
 - b) 29
 - c) 33
 - d) 45
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22. Which of the following is a composite number?

- a) 7
 - b) 19
 - c) 23
 - d) 25
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23. Which of the following numbers is NOT a prime number?

- a) 3
 - b) 5
 - c) 11
 - d) 15
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24. Which of the following is a composite number?

- a) 13
- b) 17
- c) 29
- d) 35

25. Which of the following numbers is prime?

- a) 39
 - b) 47
 - c) 51
 - d) 55
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Part 6: Bonus Challenge

26. What is the LCM of 18 and 24?

- a) 72
 - b) 96
 - c) 144
 - d) 288
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27. Find the prime factorization of 216.

- a) $2 \times 2 \times 2 \times 2 \times 3 \times 3$
 - b) $2 \times 2 \times 2 \times 3 \times 3 \times 3$
 - c) $2 \times 3 \times 5 \times 5$
 - d) $2 \times 2 \times 3 \times 5 \times 5$
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28. What is the GCF of 72 and 90?

- a) 6
 - b) 18
 - c) 24
 - d) 36
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29. What is the LCM of 15 and 35?

- a) 30
 - b) 45
 - c) 105
 - d) 210
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30. What is the prime factorization of 200?

a) $2 \times 2 \times 2 \times 5 \times 5$

b) $2 \times 3 \times 5 \times 5$

c) $2 \times 2 \times 3 \times 5$

d) $2 \times 2 \times 5 \times 5$

--BE THE CHAMPION!--