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

Name: _____
Date: _____

Part 1: Prime Factorization and GCF

1. What is the prime factorization of 512?
a) 2 × 2 × 2 × 2 × 2 × 2 × 2
b) 2 × 2 × 3 × 3 × 3
c) 2 × 2 × 2 × 2 × 3 × 5
d) 5 × 5 × 2 × 2 × 3

---

2. What is the GCF of 54 and 72?
a) 6
b) 12
c) 18
d) 36

---

3. What is the prime factorization of 800?
a) 2 × 2 × 2 × 5 × 5 × 5
b) 2 × 2 × 2 × 3 × 5 × 5
c) 2 × 5 × 5 × 5
d) 2 × 3 × 5 × 5 × 5

---

4. What is the GCF of 36, 48, and 72?
a) 12
b) 6

c) 18
d) 24

---

5. What is the GCF of 84 and 210?
a) 14
b) 21
c) 28
d) 42

Part 2: Least Common Multiple (LCM)

6. What is the LCM of 5 and 7?
a) 35
b) 15
c) 50
d) 70

---

7. What is the LCM of 18 and 30?
a) 90
b) 180
c) 60
d) 120

---

8. Two clocks chime together every 48 minutes and 72 minutes. If they chime together at 12:00 p.m., at what time will they next chime together?
a) 12:48 p.m.
b) 1:00 p.m.
c) 1:12 p.m.
d) 1:24 p.m.

---

9. What is the LCM of 20 and 24?
a) 120
b) 60

c) 40
d) 80

---

10. The LCM of two numbers is 84, and their GCF is 12. If one of the numbers is 12, what is the other number?
a) 36
b) 48
c) 72
d) 84

Part 3: Word Problems - Real-Life Applications

11. A farmer has 36 cows and 48 sheep. He wants to divide them into pens, each having the same number of animals. What is the greatest number of animals that can go in each pen?
a) 6
b) 8
c) 12
d) 24

---

12. Two sisters, Mia and Zoe, are decorating their rooms. Mia is putting up posters every 4 minutes, and Zoe is putting up posters every 6 minutes. If they both start at the same time, when will they both put up posters again?
a) 12 minutes
b) 24 minutes
c) 36 minutes
d) 48 minutes

---

13. Emma is organizing her bookshelf. She has 54 red books and 72 blue books. She wants to arrange them into groups with the same number of red and blue books in each group. What is the greatest number of books that can go in each group?
a) 12
b) 18

c) 24
d) 36

---

14. A teacher has 90 pencils and 150 erasers. She wants to pack them into boxes, each containing the same number of pencils and erasers. What is the greatest number of pencils and erasers that can go in each box?
a) 15
b) 30
c) 45
d) 60

---

15. A factory produces 72 toys every 8 minutes, and 96 toys every 12 minutes. If both machines start at 9:00 a.m., when will they finish producing at the same time again?
a) 9:48 a.m.
b) 10:00 a.m.
c) 10:24 a.m.
d) 10:36 a.m.

Part 4: Prime and Composite Numbers

16. Which of the following numbers is prime?
a) 49
b) 51
c) 53
d) 57

---

17. Which of the following numbers is composite?
a) 2
b) 3
c) 11
d) 25

---

18. Which of the following numbers is prime?
a) 17
b) 18
c) 19
d) 21

---

19. Which of the following numbers is composite?
a) 31
b) 41
c) 59
d) 63

---

20. Which of the following is NOT a prime number?
a) 2
b) 5
c) 7
d) 9

Part 5: Mixed Problems - Factors, Multiples, and Number Properties

21. What is the LCM of 8 and 12?
a) 48
b) 72
c) 96
d) 120

---

22. Find the GCF of 42, 56, and 98.
a) 6
b) 14
c) 21
d) 28

---

23. What is the prime factorization of 225?
a) 2 × 3 × 3 × 5 × 5
b) 3 × 3 × 5 × 5
c) 5 × 5 × 5 × 3
d) 3 × 3 × 3 × 3 × 5

---

24. What is the LCM of 9, 12, and 15?
a) 60
b) 90
c) 120
d) 180

---

25. What is the GCF of 30, 45, and 60?
a) 5
b) 10
c) 15
d) 30

Bonus Challenge

26. What is the LCM of 6, 9, and 12?
a) 36
b) 72
c) 108
d) 144

---

27. What is the GCF of 72 and 108?
a) 12
b) 18
c) 24
d) 36

---

28. What is the prime factorization of 540?
a) 2 × 2 × 3 × 3 × 5 × 5
b) 2 × 2 × 3 × 3 × 3 × 5
c) 2 × 3 × 5 × 5 × 5
d) 2 × 2 × 3 × 5 × 5

---

29. What is the LCM of 14 and 20?
a) 40
b) 60
c) 120
d) 140

---

30. What is the prime factorization of 384?
a) 2 × 2 × 2 × 3 × 3 × 5
b) 2 × 2 × 2 × 2 × 3 × 3 × 3
c) 2 × 3 × 5 × 5
d) 2 × 2 × 3 × 3 × 5 × 5

--BE THE CHAMPION!--