Factors and multiples

Name: _____ Date: _____

Remember: A **factor** divides exactly into a number; you get a **multiple** when you multiply. Factors come in pairs: **if 3 × 6 = 18, then 3 and 6 are both factors of 18**.

1. Write down all the factors of 18.

Answer: _____

2. Write down the first five multiples of 7.

Answer: _____

3. Is 51 a prime number? Explain.

Answer: _____

4. Write down all the prime numbers between 20 and 40.

Answer: _____

5. Write down the common factors of 24 and 36.

Answer: _____

6. What is the biggest common factor of 24 and 36?

Answer: _____

7. What is the smallest common multiple of 6 and 8?

Answer: _____

8. Write 60 as a product of prime factors.

Answer: _____

9. Is 84 a multiple of 7? Show how you know.

Answer: _____

10. Which numbers from 1 to 50 are multiples of both 4 and 6?

Answer: _____

11. Write down all the factor pairs of 48.

Answer: _____

12. Two lights flash together. One flashes every 6 seconds and the other every 9 seconds. After how many seconds do they flash together again?

Answer: _____

13. Mom packs 36 apples and 48 oranges into bags. Every bag must get the same number of apples and the same number of oranges, with nothing left over. What is the most bags she can make?

Answer: _____

14. What is the smallest number that can be divided by 2, 3, 4 and 5?

Answer: _____

15. I am a factor of 30 and a multiple of 5. I am bigger than 10 and smaller than 20. Which number am I?

Answer: _____

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I got _____ out of 15 ⭐⭐⭐

Memorandum · Factors and multiples

1. **1, 2, 3, 6, 9, 18**
   pairs: 1 × 18, 2 × 9, 3 × 6

2. **7, 14, 21, 28, 35**
   7 × 1, 7 × 2, 7 × 3, 7 × 4, 7 × 5

3. **No, 51 = 3 × 17**
   51 has more than two factors: 1, 3, 17, 51

4. **23, 29, 31, 37**
   21 = 3 × 7, 25 = 5 × 5, 27 = 3 × 9, 33 = 3 × 11, 35 = 5 × 7, 39 = 3 × 13 are not prime

5. **1, 2, 3, 4, 6, 12**
   factors of 24 that also divide into 36

6. **12**
   the biggest number in the list from question 5

7. **24**
   6, 12, 18, 24 … and 8, 16, 24 …

8. **2 × 2 × 3 × 5**
   60 = 2 × 30 = 2 × 2 × 15 = 2 × 2 × 3 × 5

9. **Yes, 7 × 12 = 84**
   84 ÷ 7 = 12 with no remainder

10. **12, 24, 36, 48**
    multiples of 12

11. **1 × 48; 2 × 24; 3 × 16; 4 × 12; 6 × 8**
    start at 1 and go up until the pairs repeat

12. **18 seconds**
    6, 12, 18 and 9, 18: the first common multiple

13. **12 bags (3 apples and 4 oranges in each)**
    the biggest common factor of 36 and 48 is 12

14. **60**
    4 × 3 × 5 = 60 (4 already includes 2)

15. **15**
    factors of 30 that are multiples of 5: 5, 10, 15, 30

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