Least Common Multiple

There are different ways to find the least common multiple (LCM) of two numbers. Here are two ways of finding the LCM of 4 and 5:

**List Multiples**

**Step 1:** List multiples of each number.
- 4: 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48...
- 5: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50...

**Step 2:** Check the multiples the numbers have in common.
- 4: 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48...
- 5: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50...

**Step 3:** Determine which of the common multiples is the least.
- 20 and 40 are both common multiples, but 20 is the least.
- The LCM of 4 and 5 is 20.

**Use Prime Factors**

**Step 1:** List the prime factors of each number.
- 4: \(2\times2\)
- 5: 5

**Step 2:** Circle the greatest number of times each different factor appears.
- 4: \(2\times2\)
- 5: 5

**Step 3:** Find the product of the factors you circled.
- \(2\times2\times5=20\)
- The LCM of 4 and 5 is 20.

Find the LCM of each set of numbers.

1. 6, 7  
2. 4, 5  
3. 10, 15  
4. 2, 5, 10  
5. 6, 21  
6. 8, 10  
7. 12, 20  
8. 5, 10, 25  
9. 7, 8  
10. **Number Sense** If you know the LCM of 4 and 5, how could you find the LCM of 40 and 50?

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11. **Writing to Explain** Peter says the least common multiple of 4, 6, and 12 is 24. Do you agree or disagree? Explain.
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- 4: \(2 \times 2\)
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**Step 2:** Circle the greatest number of times each different factor appears.
- 4: \(\bigcirc 2 \times 2\)
- 5: \(\bigcirc \)

**Step 3:** Find the product of the factors you circled.
- \(2 \times 2 \times 5 = 20\)
- The LCM of 4 and 5 is 20.

Find the LCM of each set of numbers.

1. 6, 7  **42**
2. 4, 5  **20**
3. 10, 15  **30**
4. 2, 5, 10  **10**
5. 6, 21  **42**
6. 8, 10  **40**
7. 12, 20  **60**
8. 5, 10, 25  **50**
9. 7, 8  **56**

10. **Number Sense** If you know the LCM of 4 and 5, how could you find the LCM of 40 and 50?

   **Multiply the LCM of 4 and 5 by 10.**

11. **Writing to Explain** Peter says the least common multiple of 4, 6, and 12 is 24. Do you agree or disagree? Explain.

   **Disagree. 24 is a common multiple of 4, 6, and 12, but it is not the least common multiple. The number 12 is.**