Name: **Key**

Least Common Multiple

Definitions

Multiple:	The result when multiplying the number by another whole number. Example: $7, 14, 21, 28, 35, 42$
LCM:	The smallest number (not including 0 or 1) that is a multiple of the numbers.
Strategies:	✱ The LCM of two numbers is always equal to or larger than either number.

Examples:
Prime Factorization and listing

1. Find the LCM of 12 and 15:
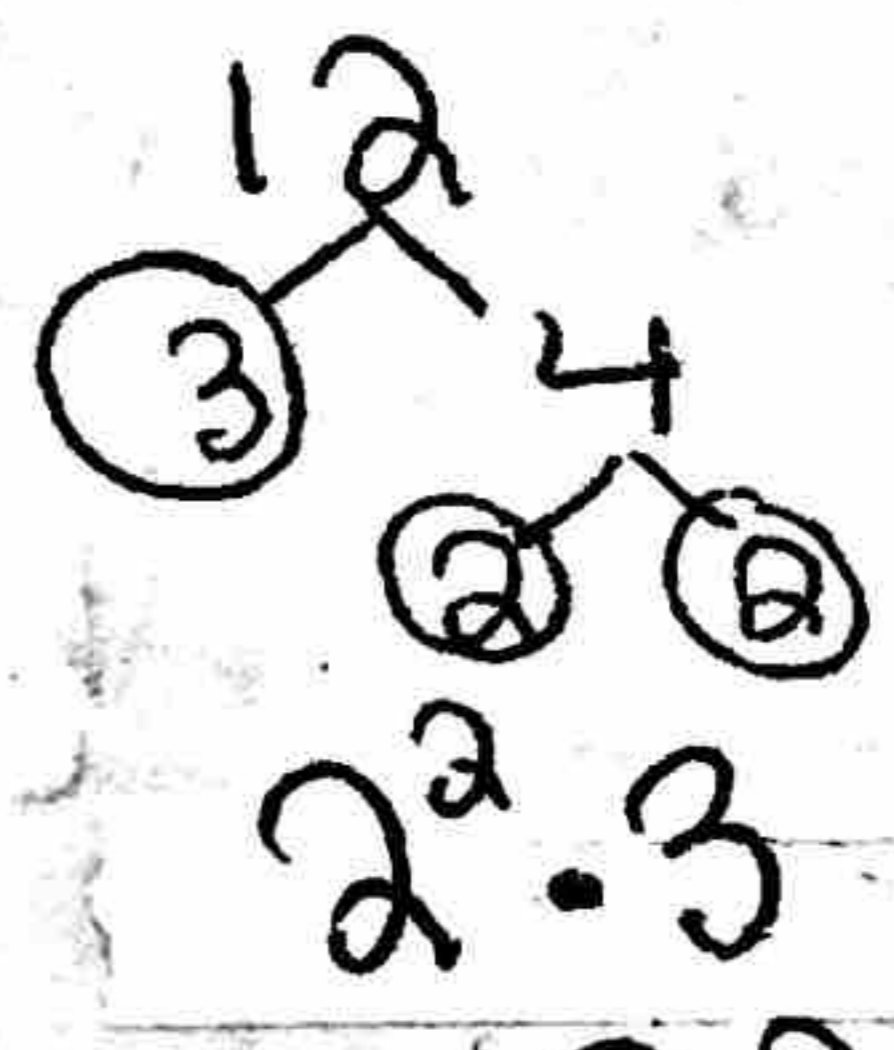
listing:

12 24 36 48 (60)

15 30 45 (60)

Lcm = 60

Prime Factorization:

12: (3) — 4 → (2)(2) → $2^2 \cdot 3$

15: (5)(3) → $3 \cdot 5$

$2^2 \cdot 3 \cdot 5 = $ (60)   Lcm = (60)

2. Find the LCM of 30 and 75:

30: 60, 90, 120, (150)

75: (150)

Lcm = 150

30: (5) — 6 → (3)(2) → $2 \cdot 3 \cdot 5$

75: (5) — 15 → (3)(5) → $3 \cdot 5^2$
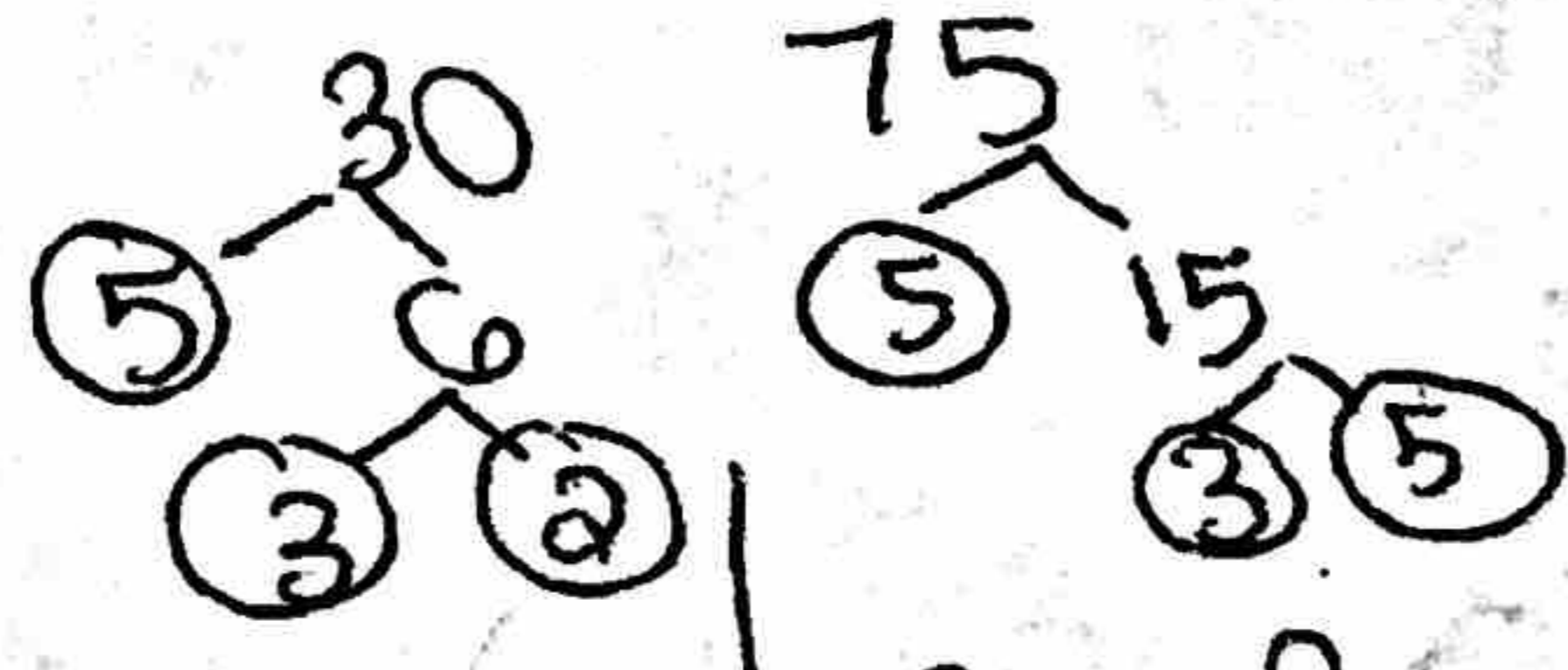
$2 \cdot 3 \cdot 5^2 = $ (150)   Lcm = (150)

Venn Diagram
Steps:
1. Use the factor tree method to list the prime factors of each number.
2. Write the common prime factors in the center of the Venn diagram.
3. List the remaining prime factors in the outside circles
4. Multiply all the prime factors to get the LCM

1. Find the LCM of 30 and 75:

30   75

2 | 3 5 | 5
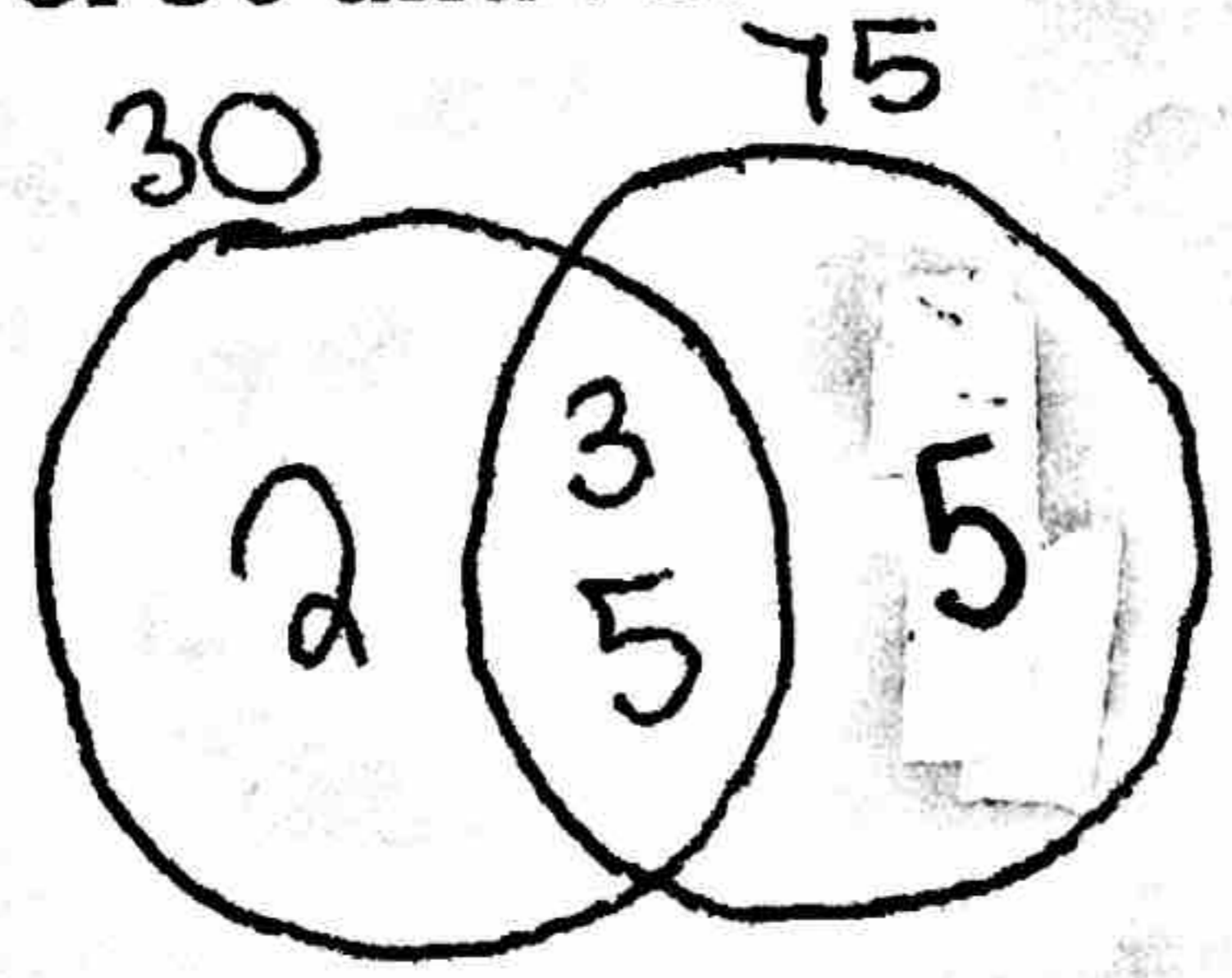
Remember: The LCM is the PRODUCT of ALL the prime numbers