79. Finding the Lowest Common Multiple (LCM) Using Prime Factorization

Practice Questions

1. Find the prime factorization of 4 and 6, then determine their LCM.

2. Determine the LCM of 12 and 18 using prime factorization.

3. Find the prime factorization of 8 and 14, then determine their LCM.

4. What is the LCM of 15 and 20 using prime factorization?

5. Find the LCM of 9 and 21.

6. Using prime factorization, determine the LCM of 16 and 24.

7. Find the LCM of 25 and 30 using prime factorization.

8. Determine the LCM of 42 and 56 using prime factorization.

9. Find the LCM of 35 and 50.

10. What is the LCM of 60 and 90 using prime factorization?

Scenario Questions

1. Two buses leave a station every 4 minutes and 6 minutes respectively. How often do they leave together?

2. A warehouse restocks 12 boxes of juice and 18 boxes of cereal at regular intervals. When will both need to be restocked at the same time?

3. Two bells ring every 8 seconds and 14 seconds respectively. When will they next ring together?

4. A cinema changes movies every 15 days and popcorn flavours every 20 days. After how many days will both change on the same day?

5. A shop restocks 9 boxes of snacks and 21 packs of drinks at different intervals. Find the next common restock time.

6. Two neon signs flash every 16 seconds and 24 seconds. When will they flash together?

7. A train stops at a station every 25 minutes and another every 30 minutes. When will they stop together again?

8. Two gears rotate every 42 seconds and 56 seconds. Find when they align again.

9. A shop refills 35 bottles of water and 50 cartons of milk at regular intervals. When will they next refill both?

10. Two events repeat every 60 minutes and 90 minutes. When will they happen together again?

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Practice Questions

1. LCM of 4 (2^2) and 6 (2×3) is 12.
2. LCM of 12 ($2^2 \times 3$) and 18 (2×3^2) is 36.
3. LCM of 8 (2^3) and 14 (2×7) is 56.
4. LCM of 15 (3×5) and 20 ($2^2 \times 5$) is 60.
5. LCM of 9 (3^2) and 21 (3×7) is 63.
6. LCM of 16 (2^4) and 24 ($2^3 \times 3$) is 48.
7. LCM of 25 (5^2) and 30 ($2 \times 3 \times 5$) is 150.
8. LCM of 42 ($2 \times 3 \times 7$) and 56 ($2^3 \times 7$) is 168.
9. LCM of 35 (5×7) and 50 (2×5^2) is 350.
10. LCM of 60 ($2^2 \times 3 \times 5$) and 90 ($2 \times 3^2 \times 5$) is 180.

Scenario Questions

1. Every 12 minutes (LCM of 4 and 6).
2. Every 36 days (LCM of 12 and 18).
3. Every 56 seconds (LCM of 8 and 14).
4. Every 60 days (LCM of 15 and 20).
5. Every 63 days (LCM of 9 and 21).
6. Every 48 seconds (LCM of 16 and 24).
7. Every 150 minutes (LCM of 25 and 30).
8. Every 168 seconds (LCM of 42 and 56).
9. Every 350 days (LCM of 35 and 50).
10. Every 180 minutes (LCM of 60 and 90).