

Name _____

Date _____



LEAST COMMON MULTIPLE SHEET 3B

For each problem below, write out the **prime factorization** of each number to find the LCM.

1) Find the least common multiple of 6 and 12.

Prime Factorization of 6: _____ Prime Factorization of 12: _____

List of prime factors (exponential form): _____ → _____

The least common multiple is _____

2) Find the least common multiple of 7 and 9.

Prime Factorization of 7: _____ Prime Factorization of 9: _____

List of prime factors (exponential form): _____ → _____

The least common multiple is _____

3) Find the least common multiple of 12 and 8.

Prime Factorization of 12: _____ Prime Factorization of 8: _____

List of prime factors (exponential form): _____ → _____

The least common multiple is _____

4) Find the least common multiple of 10 and 15.

Prime Factorization of 10: _____ Prime Factorization of 15: _____

List of prime factors (exponential form): _____ → _____

The least common multiple is _____





LEAST COMMON MULTIPLE SHEET 3B ANSWERS

1) Find the least common multiple of 6 and 12.

Prime Factorization of 6: 2×3 Prime Factorization of 12: $2 \times 2 \times 3 = 2^2 \times 3$

List of prime factors (exponential form): $2^2, 2, 3, 3$ \rightarrow $2^2, 3$

The least common multiple is $2^2 \times 3 = 2 \times 2 \times 3 = 12$

2) Find the least common multiple of 7 and 9.

Prime Factorization of 7: 7 (it is prime) Prime Factorization of 9: $3 \times 3 = 3^2$

List of prime factors (exponential form): $3^2, 7$ \rightarrow $3^2, 7$ (no canceling)

The least common multiple is $3^2 \times 7 = 3 \times 3 \times 7 = 63$

3) Find the least common multiple of 12 and 8.

Prime Factorization of 12: $2 \times 2 \times 3 = 2^2 \times 3$ Prime Factorization of 8: $2 \times 2 \times 2 = 2^3$

List of prime factors (exponential form): $2^3, 2^2, 3$ \rightarrow $2^3, 3$

The least common multiple is $2^3 \times 3 = 2 \times 2 \times 2 \times 3 = 24$

4) Find the least common multiple of 10 and 15.

Prime Factorization of 10: 2×5 Prime Factorization of 15: 3×5

List of prime factors (exponential form): $2, 3, 5, 5$ \rightarrow $2, 3, 5$

The least common multiple is $2 \times 3 \times 5 = 30$

