

77. Writing Numbers as Products of Prime Factors

Practice Questions

1. Write 24 as a product of prime factors.
2. Express 36 as a product of primes.
3. Find the prime factorization of 18.
4. Write 40 as a product of primes.
5. Express 50 as prime factors.
6. What is the prime factorization of 60?
7. Find the prime factorization of 84.
8. Express 100 as a product of primes.
9. Write 90 as a product of prime factors.
10. Find the prime factorization of 120.

Scenario Questions

1. A shop orders 24 apples in packs of prime numbers. How can they be grouped?
2. A company wants to package 36 chocolates in prime-numbered boxes. How can they do this?
3. A decorator needs 40 tiles and can only buy them in prime-numbered packs. What sizes are possible?
4. A game gives points based on prime numbers. What could be a factorized way of earning 50 points?
5. A builder arranges 60 bricks into stacks of prime numbers. What are the possibilities?
6. A chef divides 84 cupcakes into prime-numbered groups. What can they choose?
7. A factory produces 100 toys in prime-numbered batches. What are the factors?
8. A school divides 90 students into equal groups. What prime-numbered groups can be made?
9. A stadium has 120 chairs arranged in rows. How can rows be grouped using prime numbers?
10. A party packs 36 cupcakes into boxes of prime-numbered groups. How can they be packed?

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Practice Questions

1. $2^3 \times 3$
2. $2^2 \times 3^2$
3. 2×3^2
4. $2^3 \times 5$
5. 2×5^2
6. $2^2 \times 3 \times 5$
7. $2^2 \times 3 \times 7$
8. $2^2 \times 5^2$
9. $2 \times 3^2 \times 5$
10. $2^3 \times 3 \times 5$

Scenario Questions

1. Groups of 2, 3 (e.g., $2 \times 2 \times 2 \times 3$)
2. Groups of 2, 3 (e.g., $2 \times 2 \times 3 \times 3$)
3. Groups of 2, 5 (e.g., $2 \times 2 \times 2 \times 5$)
4. 2×5^2
5. Groups of 2, 3, 5 (e.g., $2 \times 2 \times 3 \times 5$)
6. Groups of 2, 3, 7 (e.g., $2 \times 2 \times 3 \times 7$)
7. Groups of 2, 5 (e.g., $2 \times 2 \times 5 \times 5$)
8. Groups of 2, 3, 5 (e.g., $2 \times 3 \times 3 \times 5$)
9. Groups of 2, 3, 5 (e.g., $2 \times 2 \times 2 \times 3 \times 5$)
10. Groups of 2, 3 (e.g., $2 \times 2 \times 3 \times 3$)