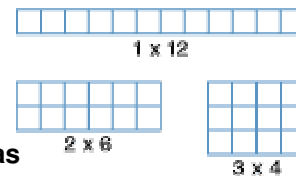


Prime Factor Problems

- 1) A composite number _____.
 A) has exactly two factors **B) has more than two factors**
 C) is the number 2 D) is a number less than 1

- 2) The graphs show that the number 12 _____.
 A) is prime B) is neither prime nor composite
C) is composite D) has three factors



SOL: 12 can be factored into either 1x12 or 2 x 6 or 3 x 4. Thus 12 has 1, 12, 2, 6, 3, and 4 as factors. Since it has more than 2 factors, it's a composite number.

- 3) Find the prime factorization of 32.

ANS: 2^5

- 4) Determine which number is *not* prime.

A) 61 **B) 57** C) 19 D) 11

SOL: $57 = 3 \times 19$

- 5) Find the prime factorization of 105.

ANS: $3 \times 5 \times 7$

SOL: Prime factor 105 = $3 \times 5 \times 7$

- 6) Find the prime factorization of 126.

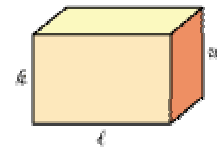
ANS: $2 \times 3^2 \times 7$

SOL: Prime factor 126 = $2 \times 3^2 \times 7$

- 7) The volume of a box is found by multiplying its height h , length l , and width w . If the measure of the volume of a box is 455, what could its dimensions be?

A) 7 by 7 by 13 B) 5 by 7 by 17
C) 5 by 7 by 13 D) 5 by 5 by 7

SOL: Prime factor 455 = $5 \times 7 \times 13$



- 8) The rectangles show that the number 23 _____.
 A) is neither prime nor composite B) is composite
C) is prime D) has three factors



- 9) The volume of a box is found by multiplying its height h , length l , and width w . If the measure of the volume of a box is 130, what could its dimensions be?



A) 2 by 5 by 13 B) 5 by 5 by 13 C) 3 by 4 by 13 D) 2 by 3 by 8

SOL: Prime factor 130 = $2 \times 5 \times 13$

- 10) The number 183 _____.
 A) is neither prime nor composite B) is prime
 C) has a prime factorization of $2 \times 3 \times 3 \times 3$ **D) is composite**

SOL: 183 is divisible by 3 as the sum of its digits is a multiple of 3.