Chapter 1 sec 4
Prime factorization

Example 1: Page 51
Find all whole number factors of 18.

Factors: numbers that multiply to get 18

Half and double.

Prime numbers:
Only two factors: 1 and the number itself.
Example: 1, 2, 3, 5, 11, 13

Which of the following numbers are prime:
a) 30 b) 23 c) 28 d) 71

Composite numbers
Whole numbers that are not prime.
4 since 2 • 2 = 4
12 since 6 • 2 = 12
3 • 4 = 12
1 • 12 = 12

Which of the following are prime and which are composite:
a) 30 b) 23 c) 28 d) 71

Exponents:
$a^m = a \cdot a \cdot a \cdot \ldots \cdot a$
a is repeated m times
m is the exponent and a is the base. Exponent, m, tells how many times the base, a, is repeated.

Expand and evaluate
2^5
expand
2 • 2 • 2 • 2 • 2

Evaluate:
32

Prime factorization:
All the factors of a given number written and are prime and written with exponents.

Example: 88
Use half and double until you find 2 factors that are easy to find factors.
1 • 88
2 • 44
4 • 22
8 • 11

prime factors: 1, 2, 2, 2, 11
Prime factorization is: $2^3 \cdot 11$