

Pre-Algebra Worksheet 2 Factors

- Which of the following statements are true?
(a) 3 is a factor of 18. (b) 3 is a multiple of 18. (c) 18 is a multiple of 3. (d) 27 has 7 as a factor. (e) 35 has 5 as a factor. (f) 12 has -3 and -2 as factors.
- A *perfect number* is equal to the sum of all of its positive factors other than itself (all factors, not just prime factors). For example, 6 is perfect because its positive factors are 1, 2, 3, 6, and $1 + 2 + 3 = 6$. The next perfect number after 6 is between 20 and 30. What is it?
- Find the prime factorizations of the following numbers:
(a) 24 (b) 64 (c) 29 (d) 120 (e) 81 (f) 51
- Find all of the primes between 1 and 30.
- Find the Greatest Common Factors of the following pairs of numbers, first using Method #1 (from page 5 of the notes for class 2), and then using the Euclidean Algorithm: (a) (10,15) (b) (21,49)
- Find the Least Common Multiple of the number pairs in the previous problem
- 48 boxes are to be stacked in a rectangular array a boxes wide, b boxes deep, and c boxes high. Find integers a, b, c that are as nearly equal to one another as possible. This will make a compact array.