

Homework Help for Math Out of the Box

Developing Number Concepts: Values and Variables, Module B

Information about homework assignments is provided to help parents and other homework helpers with the mathematics ideas that are being developed. The homework help includes definitions of key vocabulary, questions to ask that will help students connect to the classroom investigations, problem solving examples, and other helpful explanations.

Homework 5A1 – 5A2

In Lessons 1–4, students examine ways to identify factors and multiples.

Factor: A number that is multiplied by another number.

1×12 , 2×6 , 3×4 can be multiplied to make 12. 1×6 and 2×3 can be multiplied to make 6.

Factors of 12 are 1, 2, 3, 4, 6, 12.

Factors of 6 are 1, 2, 3, 6.

The greatest common factor (GCF) of 6 and 12 is 6.

Multiple: A number that may be divided by another number with no remainder: 3, 6, 9, 12, and 15 are multiples of 3. 2, 4, 6, and 8 are multiples of 2.

The least common multiple (LCM) of 2 and 3 is 6.

Homework 5B1– 5B4

In Lessons 5–12 students investigate a variety of representations for fractions.

When comparing numbers the following symbols and words can be used.

$<$ is less than $>$ is greater than $=$ is equal to

Denominator: The bottom number in a fraction, which names the number of equal parts in the whole.

Equivalent fractions: Fractions that have different numerators and denominators but name the same amount.

Fraction: A number that names part of a whole unit or set, compares two amounts, or represents division.



Improper fraction: A fraction in which the numerator is larger than the denominator.

Mixed number: A combination of a whole number and a fractional number.

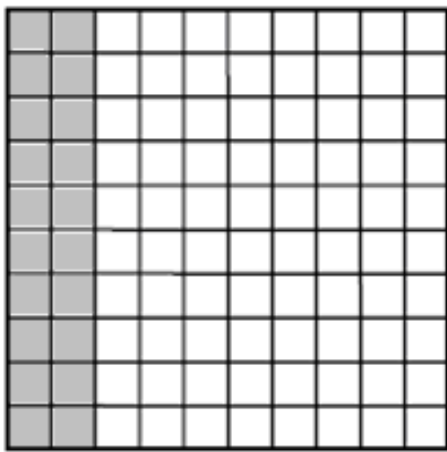
Numerator: The top number in a fraction, which indicates the number of fractional units being counted.

Homework 5C1– 5C2

In Lessons 13–16, students investigate percents.

Percent: One part of a hundred.

Following is an example of using a hundreds grid to solve a percent problem:



If a watch has a regular price of \$100, what is the cost of the watch with a \$20 percent discount?

Each unit in the grid equals \$1.00.
Twenty units are shaded to represent the discount.

Homework 5D1

In Lessons 17–19, negative numbers are investigated with real life connections such as temperature and negative balances in financial situations.

Homework 5E1– 5E2

Lessons 20-24 involve a variety of investigations that require critical thinking skills. The lessons include concepts of probability and discrete mathematics. Lists and tree diagrams are explored as ways to analyze combinations.

Example of a List

| Possible Combinations | | | |
|--|----------------|----------------|-------------|
| How many combinations can be made with two kinds of milk (white and chocolate milk) and three kinds of cookies (chocolate chip, fudge, and oatmeal)? | | | |
| List A | | List B | |
| <u>Milk</u> | <u>Cookies</u> | <u>Cookies</u> | <u>Milk</u> |
| White | Chocolate chip | Chocolate chip | White |
| White | Fudge | Chocolate chip | Chocolate |
| White | Oatmeal | Fudge | White |
| Chocolate | Chocolate chip | Fudge | Chocolate |
| Chocolate | Fudge | Oatmeal | White |
| Chocolate | Oatmeal | Oatmeal | Chocolate |

Example of a Tree Diagram

