



## **Common Core Math Newsletter**

### **6th Grade Advanced Unit 2: Expressions and Equations**

#### **Standard**

##### **6.EE.7**

- Solve real world problems
- Solve mathematical problems
- Use form of  $x + p = q$  and  $px = q$  with non-negative rational numbers

##### **6.EE.8**

- Write an inequality to represent a constraint or condition in a real world problem
- Write an inequality to represent a constraint or condition in a mathematical problem
- Use form  $x > c$  or  $x < c$

##### **6.EE.9**

- Use variables to represent two quantities in a real-world problem that change in relationship to one another
- Write an equation to express one quantity in terms of another quantity (dependent & independent variables)
- Analyze the relationship between the dependent and independent variable using graphs and tables, and relate these to the equation

##### **7.EE.B.3**

- Solve multi-step real-life problems posed with positive and negative rational numbers in any form
- Solve multi-step mathematical problems posed with positive and negative rational numbers in any form

##### **7.EE.4**

- Use variables to represent quantities in a real-world problem
- Use variables to represent quantities in a mathematical problem
- Construct simple equations and inequalities to solve problems by reasoning about quantities

## 6th Grade Advanced Common Core Math

### Unit 2: Expressions and Equations

#### Vocabulary

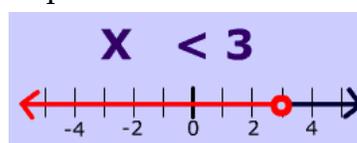
**expression** numbers, symbols and operators grouped together that show the value of something

$$4x - 7$$

**equation** shows that two expressions have the same value

$$4x - 7 = 5$$

**inequality** shows that two expressions do not have the same value



**terms** terms are separated by operators and can be numbers, variables or a combination

$$4x - 7 = 5$$

**variables** symbol for an unknown number

$$4x - 7 = 5$$

**coefficients** a number used to multiply a variable

**inverse operations** the operation that reverses the effect of another operation (e.g. addition & subtraction or multiplication & division)

**exponents** says how many times to use a number in a multiplication expression

$$8^2$$

**notation** system of symbols used to represent special things

**value** the result of a calculation

**evaluate** to calculate a value

**expand** removing parenthesis {e.g.  $3(5 + 2) = 3 \times 5 + 3 \times 2$ }

**cube number** result of using a whole number in a multiplication expression three times

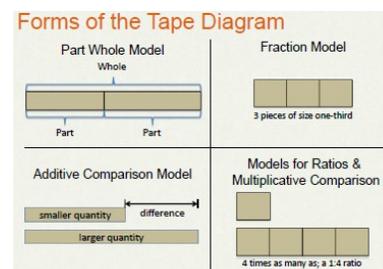
## Additional Resources

### 6th Grade Advanced Common Core Math

**Distributive Property** multiplying a numbers by a group of numbers added or subtracted together is the same as doing the multiplication separately [e.g.  $a \times (b - c) = a \times b - a \times c$ ]

**factored form** derived by pulling out a common factor of an expression [ e.g. common factor of  $2y + 6$  is 2 and factored form is  $2 \times (y + 3)$ ]

**tape diagram/ bar model** drawing that looks like a segment of tape, used to illustrate number relationships; also known as strip diagram, bar model, fraction strip, or length model



**independent variable** variable (often denoted by  $x$ ) whose variation does not depend on that of another variable (e.g. video game rentals are \$2 per game after a one time startup fee of \$10;  $2x + 10 = y$ )

**dependent variable** variable (often denoted by  $y$ ) whose value depends on that of another variable (e.g. video game rentals are \$2 per game after a one time startup fee of \$10;  $2x + 10 = y$ )

#### IXL.com 6th grade Topics:

- Exponents
- Algebra

#### IXL.com 7th grade Topics

- Variable Expressions
- Properties

#### LearnZillion.com Videos:

- <https://learnzillion.com/lessonsets/577-solve-problems-by-writing-and-solving-equations-of-the-form-x-p-q-and-px-q>
- <https://learnzillion.com/lessonsets/578-understand-write-and-represent-inequalities-of-the-form-x-c-or-x-c-and-recognize-that-they-have-infinitely-many-solutions>
- <https://learnzillion.com/lessonsets/675-use-variables-to-relate-two-quantities-in-a-real-world-problem>
- <https://learnzillion.com/lessonsets/680-solve-complex-problems-with-positive-and-negative-rational-numbers-in-all-forms-converting-between-forms-and-assessing-the-reasonableness-of-answers>
- <https://learnzillion.com/lessonsets/323-solving-word-problems-with-equations-and-inequalities>