Algebra I
Notes Section 1.4
Write Equations and Inequalities

Big Ideas
1. How to determine an equation from an inequality.
2. How to substitute numbers for the variables and solve to find solutions for equations and inequalities.
3. How to use verbal phrases associated with an equal sign and with each type of inequality symbol to determine whether to write and equation or an inequality.

Vocabulary

Equation   2 expressions with an EQUAL sign between

Inequality   2 expressions with an INEQUALITY sign between

Open Sentence   An equation/inequality that contains an expression

Inequality Symbols
I. Is less than   ____
II. Is less than or equal to   ____
III. Is greater than   ____
IV. Is greater than or equal to   ____

EXAMPLE 1   Write an equation or inequality.

a) The difference of twice a number k and 8 is 12   _____

b) The product of 6 and a number n is at least 24   _____

c) A number y is no less than 5 and no more than 13   _____

d) The quotient of a number p and 12 is at least 30   _____

EXAMPLE 2   Check whether 3 is a solution of the equation or inequality.

a) $8 - 2x = 2$ _____

b) $4x - 5 = 6$ _____

c) $2z + 5 > 12$ _____

d) $5 + 3n \leq 20$ _____

EXAMPLE 3   Solve using mental math.

a) $x + 4 = 10$ _____

b) $20 - y = 8$ _____

c) $6n = 42$ _____

d) $a/5 = 9$ _____

EXAMPLE 4   The last time you and 3 friends went to a mountain bike park, you had a coupon for $10 off and paid $17 for 4 tickets. What is the regular price of 4 tickets? If you pay the regular price this time an dshare it equally, how much does each person pay?

EXAMPLE 5   A basketball player scored 351 points last year. If the player plays 18 games this year, will an average of 20 points per game be enough to beat last year's total?