TIP

CHART

TERM	**I**NFORMATION	**P**ICTURE
Addition Property of Equality	Adding the same number to each side of an equation produces an equivalent expression.	
Constant of proportionality	The constant value of the ratio of two proportional quantities x and y; usually written y = kx, where k is the constant of proportionality (coefficient). In a proportional relationship, y = kx, k is the constant of proportionality (coefficient), which is the value of the ratio between y and x.	
Dependent variable	A variable that depends on other factors. For example, a test score could be a dependent variable because it could change depending on several factors such as how much you studied, how much sleep you got the night before you took the test, or even how hungry you were when you took it.	

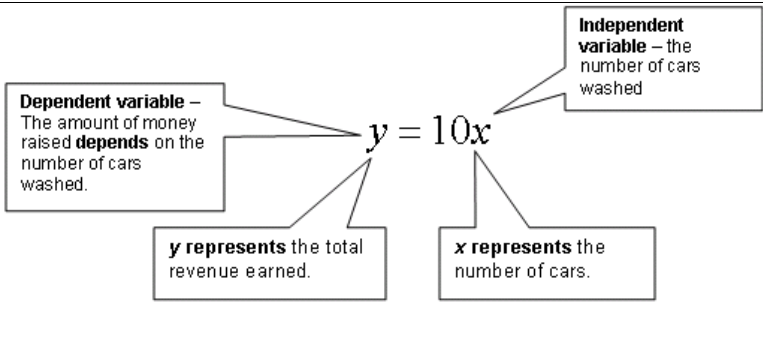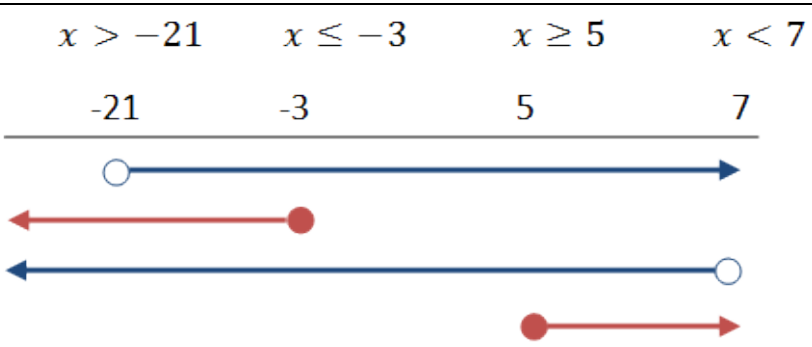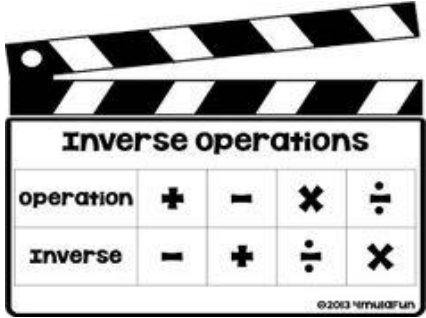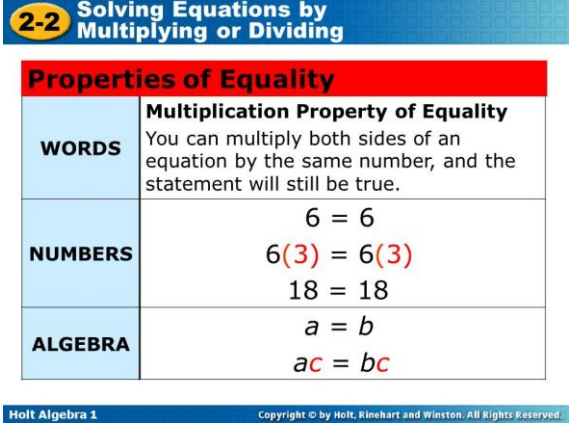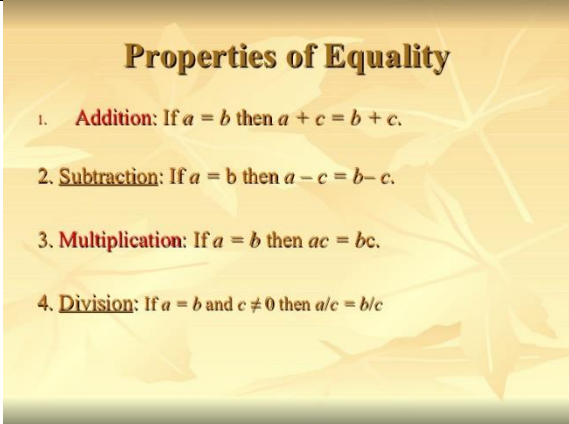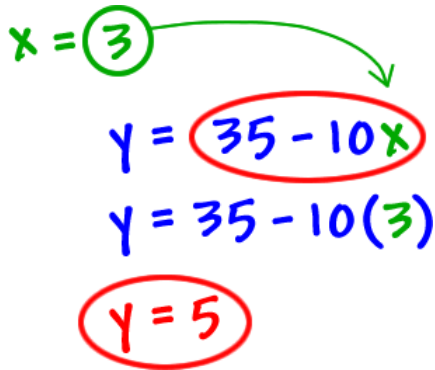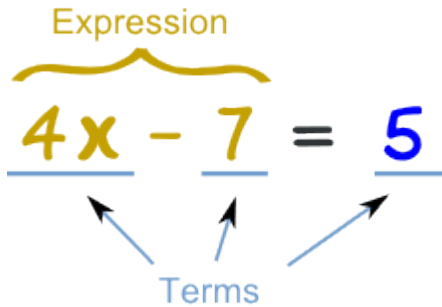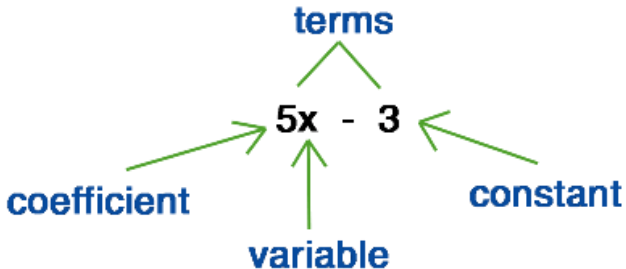|		
Direct Proportion (Direct Variation)	The relation between two quantities whose ratio remains constant. When one variable increases the other increases proportionally: When one variable doubles the other doubles, when one variable triples the other triples, and so on. When A changes by some factor, then B changes by the same factor: A=kB, where k is the constant of proportionality.	$$A = kB$$
Division Property of Equality	States that when both sides of an equation are divided by the same number, the remaining expressions are still equal.	
Equation	A mathematical sentence that contains an equal sign.	
Independent variable	A variable that stands alone and isn't changed by the other variables you are trying to measure. For example, someone's age might be an independent variable.	
Inequality	A mathematical sentence that contains the symbols >, <, ≥, or ≤.	

Inverse Operation	A mathematical process that combines two or more numbers such that its product or sum equals the identity.	
Multiplication Property of Equality	States that when both sides of an equation are multiplied by the same number, the remaining expressions are still equal.	
Properties of Equality	A relationship between two quantities or, more generally two mathematical expressions, asserting that the quantities have the same value or that the expressions represent the same mathematical object.	
Proportion	An equation which states that two ratios are equal.	$$\frac{4}{8}=\frac{1}{2} \quad \text{or} \quad 4:8=1:2$$
Solution	The set of all values which, when substituted for unknowns, make an equation true.	$$2x+4\left(-4\right)=-10$$ $$2x-16=-10$$ $$2x=6$$ $$x=3$$

Substitution	The process of replacing a variable in an expression with its actual value.	
Subtraction Property of Equality	States that when both sides of an equation have the same number subtracted from them, the remaining expressions are still equal.	
Term	A number, a variable, or a product of numbers and variables.	
Variable	A letter or symbol used to represent a number or quantities that vary.	

$x = 3$

$y = 35 - 10x$

$y = 35 - 10(3)$

$y = 5$

Solving Equations by Adding or Subtracting (2-1)

Properties of Equality

Subtraction Property of Equality

WORDS: You can subtract the same number from both sides of an equation, and the statement will still be true.

NUMBERS:
$7 = 7$
$7 - 5 = 7 - 5$
$2 = 2$

ALGEBRA:
$a = b$
$a - c = b - c$

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Expression

$4x - 7 = 5$

Terms

terms

$5x - 3$

coefficient   variable   constant