

MATH 1010 ~ Intermediate Algebra Chapter 1 Fundamentals of Algebra

Section 1.3: Properties of Real Numbers

Objectives:

- * Identify and use the properties of real numbers.
- * Develop additional properties of real numbers.

Which properties are used?

$$a(b+c) = ab + ac = ba + ca = ca + ba = (c+b)a$$

PROPERTIES OF REAL NUMBERS

Commutative Property:

Associative Property:

Distributive Property of _____ over _____:

Additive Identity Property:

Multiplicative Identity Property:

Additive Inverse Property:

Multiplicative Inverse Property:

PROPERTIES OF EQUALITY

Addition Property of Equality:

Multiplication Property of Equality:

Cancellation Property of Addition:

Cancellation Property of Multiplication:

PROPERTIES OF ZERO

Multiplication Property of Zero:

Division Property of Zero:

Division by Zero is Undefined:

PROPERTIES OF NEGATION

Multiplication by -1:

Placement of Negative Signs:

Product of Two Opposites:

① EXAMPLE: Simplify and state the properties used.

a) $10(2x) =$

b) $17 - 17 =$

c) $(-3/4)(-4/3) =$

d) $6(x+3) =$

e) The additive inverse of -16 is _____, the multiplicative inverse is _____.

f) The additive inverse of -2/3 is _____, the multiplicative inverse is _____.

g) $12(\$19.95) =$

h) BEWARE $(a+b)^2 =$