Algebraic Properties of Real Numbers

Name _____

Date _____ Period _____

Reflexive Property

For any number a

$a = a$

Example:

-5 $4x$

Symmetric Property

For any number a and b

if $a = b$, then $b = a$

Example:

if $3x = 27$ then 27

if $2x + 5 = 5y$ then $5y$

Transitive Property

For any number a, b and c
if $a = b$ and $b = c$, then $a = c$

Example:

if $2y = 24$ and $24 = 3x$ then $2y$

if $12 = x + 4$ and $x + 4 = 6y$ then 12

Substitution Property

If $a = b$,
then b can replace a in any statement

Example: Let $a = b$

if $4a + 7 = 12$,

if $a^2 - 4 = 5$,

Reflexive Property | Symmetric Property | Transitive Property | Substitution Property

State the algebraic property that is illustrated in the following statements

if $3y = 2a$ and $2a = 6x$

then $3y = 6x$

Reflexive Property | Symmetric Property | Transitive Property | Substitution Property

State the algebraic property that is illustrated in the following statements

Let $x = 2a$ If $x - 4 = 8$, then $2a - 4 = 8$

Reflexive Property | Symmetric Property | Transitive Property | Substitution Property

State the algebraic property that is illustrated in the following statements

If $a + 4 = b$, then $b = a + 4$

Reflexive Property | Symmetric Property | Transitive Property | Substitution Property

State the algebraic property that is illustrated in the following statements

$x^2 - 16 = x^2 - 16$

Reflexive Property

For any number a

$a = a$

Symmetric Property

For any number a and b

if $a = b$, then $b = a$

Transitive Property

For any number a, b and c

if $a = b$ and $b = c$, then $a = c$

Substitution Property

If $a = b$,

then b can replace a in any statement