POSTULATES AND PROPERTIES
(THEOREMS)

a) ___ Closure Postulate for addition
b) ___ Closure Postulate for multiplication
c) ___ Commutative Postulate for addition
d) ___ Commutative Postulate for multiplication
e) ___ Associative Postulate for addition
f) ___ Associative Postulate for multiplication
g) ___ Additive Postulate of Zero
h) ___ Postulate of Additive Inverses
i) ___ Multiplicative Postulate of One
j) ___ Postulate of Multiplicative Inverses
k) ___ Distributive Postulate of Multiplication with respect to addition
l) ___ Reflexive Property
m) ___ Symmetric Property
n) ___ Transitive Property
o) ___ Postulate of Comparison of Inequality
p) ___ Transitive Postulate of Inequality
q) ___ Additive Postulate of Inequality
r) ___ Multiplicative Postulate of Inequality
s) ___ Addition Property of Equality
t) ___ Subtraction Property of Equality
u) ___ Multiplication Property of Equality
v) ___ Division Property of Equality
w) ___ Subtraction Property of Inequality
x) ___ Division Property of Inequality
y) ___ Substitution Principle
z) ___ Zero-Product Property

1. if $a < b$, then $a - c < b - c$
2. For every real number "a" except zero, there is a unique real number $1/a$ such that $a \times 1/a = 1$ and $1/a \times a = 1$
3. the sum $a + b$ is a unique real number
4. $a = a$
5. if $a = b$ then $a + c = b + c$ and $c + a = c + b$
6. if $ab = 0$, then $a = 0$ or $b = 0$
7. the product ab is a unique real number
8. if $a = b$, then $b = a$
9. if $a < b$ and $0 < c$, then $ac < bc$ if $a < b$ and $c < 0$, then $bc < ac$
10. if $a = b$, "a" may be replaced by "b" and "b" by "a" in any equation or inequality.
11. for every real number "a" there is a unique real number "-a" such that $a + (-a) = 0$ and $(-a) + a = 0$
12. $ab = ba$
13. $(a + b) + c = a + (b + c)$
14. if $a < b$, then $a + c < b + c$
15. if $a = b$ then $ac = bc$
16. the set of real numbers contains a unique element "1" having the property that $a \times 1 = a$ and $1 \times a = a$
17. $a + b = b + a$
18. if $a = b$ and $b = c$, then $a = c$
19. if $a < b$ and $c \neq 0$, then $a/c = b/c$
20. if $a = b$, then $a - c = b - c$ and $c - a = c - b$
21. if $a < b$ and $b < c$, then $a < c$
22. $a(b + c) = ab + ac$ and $(b + c)a = ba + ca$
23. $(ab)c = a(bc)$
24. if $a < b$ and $c > 0$, then $a/c < b/c$ and if $a < b$ and $c < 0$, then $a/c > b/c$
25. one and only one of the following is true: $a < b$, $a = b$, $b < a$
26. the set of real numbers contains a unique element 0 having the property that $a + 0 = a$ and $0 + a = a$