NAME: _____

NUMBER: _____

QUIZ over Section 9 in the 'CAT' book; 25 points.

1.
(6 pts)

The *Multiplication Property of Equality* states: For all real numbers a and b, and for $c \neq 0$,

$$a = b \iff ac = bc.$$

(1 pt) What is the universal set for a in the previous theorem?

(1 pt) What is the universal set for c in the previous theorem?

(4 pts) Translate this theorem; that is, what is it telling you that you can DO?

2.
(10 pts)

(5 pts) Solve the equation. Use the Addition and Multiplication Properties of Equality, as needed.
(3 pts) Check.
(2 pts) Use acceptable formats for both the solution and the check.

$$\frac{2x - 3}{5} = 1$$

3.
(5 pts)
Indicate, on each number line, where x would move under the specified operation.

(1 pt)

(1 pt)

(1 pt)

(1 pt)

(1 pt)

4.
(4 pts)
Can multiplying by zero CHANGE the truth of an equation? Justify your answer.