NAME: _____

NUMBER: _____

QUIZ over Section 4 in the 'CAT' book; 20 points.

1. (2 pts) How would a mathematician state the general principle that is being illustrated in the following cases?

$0 \cdot 3 = 0$ $\quad$ $0 \cdot 1.4 = 0$ $\quad$ $0 \cdot \frac{1}{2} = 0$

$0 \cdot (-3) = 0$ $\quad$ $0 \cdot 0 = 0$ $\quad$ $\ldots$

2. (2 pts) Give shorthands, if possible, for each of the following expressions. Write each in the most conventional way:

(1 pt) $y \cdot 7 \cdot x$

(1 pt) $5 \cdot 3$

3. (3 pts) Represent the following sequence of operations by an expression. Let x denote the number that you're starting with.

Take a number, add 3, then multiply by 5.

4. (2 pts) In words, describe the sequence of operations represented by the expression:

$5x - 3$

5. (2 pts) For each pair of mathematical sentences given below, circle the 'best' one, in keeping with normal mathematical conventions.

(1 pt) Let $x \in \mathbb{Z}$. $\quad$ Let $n \in \mathbb{Z}$.

(1 pt) For all $i \in [0, 2)$. $\quad$ For all $t \in [0, 2)$.

6. (3 pts) Handwrite each of the following variables in the correct way:

x $\quad$ y $\quad$ z $\quad$ t $\quad$ i $\quad$ l

7. (3 pts) List THREE COMMON USES FOR VARIABLES:

(a)

(b)

(c)

8. (3 pts) State how you would READ ALOUD each of the following sentences:

(a) $x \in \mathbb{R}$

(b) For all $x \in \mathbb{R}$ ...

(c) Let $x \in \mathbb{R}$.

