

NAME: _____

NUMBER: _____

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

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

$$0 \cdot 3 = 0$$

$$0 \cdot 1.4 = 0$$

$$0 \cdot \frac{1}{2} = 0$$

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

$$0 \cdot 0 = 0$$

...

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

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

(1 pt) $5 \cdot 3$

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

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

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

$$5x - 3$$

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

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

Let $n \in \mathbb{Z}$.

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

For all $t \in [0, 2)$.

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

x

y

z

t

i

l

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

(a)

(b)

(c)

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

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

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

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