

[11-05-10-T21]

Assignment

Today we solved the equation $x \circ b = c$, where the operation \circ is defined by

\circ	a	b	c
a	a	b	c
b	b	c	a
c	c	a	b

We wrote

$$x \circ b = c$$

$$(x \circ b) \circ c = c \circ c$$

$$x \circ (b \circ c) = c \circ c$$

$$x \circ (a) = c \circ c$$

$$x = c \circ c$$

$$x = b$$

We concluded that the only possible value of x that would make $x \circ b = c$ true is $x = b$ and we confirmed this by noting that $b \circ b = c$.

Then we asked what “=” should mean.

We also asked about the validity of obtaining the second line from the first in the solution above. Why should this be valid.

Give these questions some thought and we will discuss your ideas tomorrow.