Robot Rescue

You need $\square$
a calculator (optional) $\square$ a classmate

Activity
Maria has made robots to do her weekly chores. All of them worked perfectly last weekend, but this week none of them will move at all! The first robot had this pattern on its display:


So Maria typed in $5+5=10$. The display changed to:

021 ying
Tenth equation, please!

1. a. Write the tenth equation for Maria's robot.
b. With a classmate, discuss the rule you used,
2. Here are the patterns for Maria's other robots:
i.

$$
\begin{aligned}
& 1=1-0 \\
& 1=2-1 \\
& 1=3-2 \\
& 1=4-3
\end{aligned}
$$

iv.

ii.

v.


$$
\begin{aligned}
& 0+1=1+0 \\
& 1+2=2+1 \\
& 2+3=3+2 \\
& 3+4=4+3
\end{aligned}
$$

$1=2+3-4$ $2=3+4-5$ $3=4+5-6$ $4=5+6-7$
iii.

vi.

a. What are the next and tenth equations she needs to type in for each robot?
b. With a classmate, discuss the rules you used.

