0. (a) Evaluate $3^2 - 2^3$.

(b) Let $t=TNYWR$.
Determine the volume of a cube of side length $t$.

(c) Let $t=TNYWR$.
If the point $(a, t)$ is on the line $x + y = 1$, determine the value of $a$. 
Relay # 0 (a)

Relay # 0 (b)

Relay # 0 (c)
1. (a) An arithmetic sequence is a sequence in which each term after the first is obtained from the previous term by adding a constant. For example, 3, 5, 7, 9 is an arithmetic sequence with four terms.

What is the 13th term of the arithmetic sequence 3, 14, 25, 36, 47, 58, . . . ?

(b) Let \( t = \text{TNYWR} \).

The point \((t, k)\) is on the line \(3x - 4y - 5 = 0\). What is the value of \(k\)?

(c) Let \( t = \text{TNYWR} \).

In the diagram, a fish tank in the shape of a rectangular prism \(ABEDFHJG\) is tipped so that edge \(AJ\) rests on a table. Water fills the tank up to surface \(FKCD\). The length of \(AB\) is \(t\), and \(FD = 60\), and \(DA = AC = 40\).

If the tank is set to rest on surface \(HBAJ\), what will the depth of the water be?
Relay # 1 (a)

Relay # 1 (b)

Relay # 1 (c)
2. (a) Evaluate
\[ 2 + \frac{2}{2 + \frac{2}{2 + 2}}. \]

(b) Let \( t = \text{TNYWR}. \) Let \( k = 5t. \) Determine the perimeter of the figure.

(c) Let \( t = \text{TNYWR}. \) The average of a set of ten numbers is \( t. \) If one of the numbers is removed, the average of the remaining nine numbers is \( t - 1. \) What number was removed?
Relay # 2 (a)

Relay # 2 (b)

Relay # 2 (c)
3. (a) The sum of 17 consecutive even integers is 1530. What is the largest of these integers?

(b) Let $t=$TNYWR. Let $k = t - 90$. Determine the area of the pentagon $ABCDE$.

(c) Let $t=$TNYWR. $EFGH$ is a square and $ABCD$ is a rectangle. The area of $EFGH$ equals the area of $ABCD$. Also, $AM = EM = HN = DN = t$. Determine the length of $BC$. 
Relay # 3 (a)

Relay # 3 (b)

Relay # 3 (c)