0 (a). Evaluate $\frac{3^2 - 1}{2^2}$.

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

Determine the perimeter of the rectangle below.

```
  t
2t+5
```

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

In the quadratic equation $x^2 - tx - 6t^2 = 0$, the positive root is $a$. Determine the value of $a$. 
1 (a). In the sequence, 1, 3, 5, 7, . . . , each term after the first is two larger than the previous term.
What is the sum of the first 12 terms in this sequence?

1 (b). Let \( t = \text{TNYWR} \).
The point \((k, t)\) is on the line \(3x - y - 6 = 0\). Find the value of \( k \).

1 (c). Let \( t = \text{TNYWR} \).
A square with side length \( t \) is changed into a rectangle by adding \( k \) to its length and subtracting \( k \) from its width. What is the smallest positive integer value of \( k \) for which the new rectangle has area less than 2013?
2 (a). Evaluate \[ \frac{\frac{1}{2} + \frac{1}{3}}{\frac{1}{2} \times \frac{1}{3}}. \]

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

Peter lists the prime numbers in increasing order. Determine the average of the \( 2t \)th and \( 2t + 1 \)th numbers in his list.

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

In the diagram, \( D \) lies on side \( BC \) of \( \triangle ABC \) with \( AD \) perpendicular to \( BC \).
If \( AB = 35 \), \( BD = t \) and \( DC = 6 \), what is the length of \( AC \)?
3 (a). In the sum \[
\begin{array}{c}
2 \ 0 \ A \ B \\
+ 1 \ 3 \ A \ B \\
\hline
3 \ B \ 0 \ 8
\end{array}
\]
A and B are non-zero digits.
Determine the value of A.

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

The lines \( x + y = k \) and \( x - ty = -8 \) intersect on the line \( y = x \). Determine the value of \( k \).

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

In the diagram, the circle has centre \( O \) and radius \( t \). Square \( ABCD \) has side length \( t \).
The overlapping area is shaded. What is the positive difference between the unshaded area of the square and the circle? Round your answer to the nearest integer.