These corrections are from
steven.brown.math@gmail.com.

1. Page 15; Lemma 6.3.
   \[ s + 2b + 1 \leq n \] is a typo. Should be
   \[ s + 2b + 1 < w \]
I think. That can’t be true therefore
   \[ s + 2b + 1 \geq w. \]
I MADE ALL OF THE CORRECTIONS. BUT THEN PROBLEM: I
REWROTE THE PROOF TO MAKE IT CLEARER BUT THEN AN
ODD THING HAPPENED. ITS LOOKS LIKE I CAN GET \( w \leq s + 2b. \)
PLEASE TAKE A LOOK AND SEE WHAT YOU THINK. I DONT
THINK THIS IS POSSIBLE.

2. Page 17, end of proof Theorem 6.5.
   (a) So \( W(p(x); 3) \leq \ldots \)
   I am guessing that lemma 6.3 is used here
   if this is the case that should be said; and all conditions of its
   application should be checked. That said, shouldn’t it be
   \[ W(p(x); 3) \leq p(db) + 2 \ast 2(p(x_0) + p(y_0)) + 1? \]
   (application of lemma 6.3) and then
   \[ p(db) + 2 \ast 2(p(x_0) + p(y_0)) + 1 = O(a^5b^2) \]
doesn’t change the conclusion. (also to add the argument that if
you have a one-sided boundary condition then you obviously have
a two sided boundary condition) * if this is not the case; the actual
argument should be given

3. Page 19,
   (a) Why not give the linear combinations here? That would help the
reader, especially in light of (12) otherwise the reader may doubt
the accuracy of the results. I believe that is all correct but maybe
requires more evidence.
For example \( \gcd(2a + 1, a + 1) = 1 \) because \( 2(a + 1) - (2a + 1) = 1 \) and Theorem de Bachet Bezout.
(b) By the claim: for all $a, b \in \mathbb{Z}$, $gcd(\ldots) \leq 6$ brackets are missing.

4. Page 20,

"Each equation is a Pythagorean triple"... Not in the way that the system is written. I suggest removing the equations involving $w$ and to replace them by the actual Pythagorean equations. Would be nice to say and to show in the graphic that we actually impose $x < y < z < w$

\begin{align*}
c^2 + f^2 &= e^2 \\
b^2 + f^2 &= d^2 \\
a^2 + c^2 &= b^2
\end{align*}

is my guess to replace equations with $w$. 