

Use the Middle Bits Instead of the Low Bits

We can do better by using the bigger bits.

Say $x = 46 = 101110$ (in binary).

$$313x + 307 = 11100101110001$$

mod 256 gives the last 8 bits: 111001**01110001**

Instead, **let's drop the last two bits.**

So we use these: 1110**0101110001**

Call it $G(x) = \text{floor} [(313x + 307) / 4] \text{ mod } 256$