Modular Arithmetic Questions

How do these these aritmatic based functions improve code/data security?

If we were in a different mod, the 2^k mod 3 ting would change as well, correct? Is there some simple way to tell what the number replacing the three would be aside from pattern recognition?

Do all mods result in a pattern?

Very familiar with modular arithmetic. Since RSA uses modular arithmetic, does it use a single modulus? How would the modulus(es?) be determined?

Is it possible to find the staring position by reversing the formula?

is the equation always have a 2 in the ones place or does that change per question as the exponent place does?

What did you mean by "the world of mod 7". Did this just mean when you have a circle with 7 people in it?

i understand the concept of modular arithmetic, but am wondering how this will help make our lives easier?

Is each of the 'kids' in the circle actually a device/computer in our example? A packet is sent through multiple devices and may or may not end up in the same place it started?

How does this proccess work for other numbers? Why does knowing that there is a cycle for 2^k help us with RSA?

Are there other applications of mods used in network protocols, outside of encryption?

Does the 2^{(k * mod(n))} work for different values of k?

why mod7? and can we go over/go more in depth about step forward and back with different colors in class?

the 2^{kmod3} was a bit confusing I didn't understand how you are counting skips

Why are we using 2 as the base for the power?

Everything was clear, but how exactly does modulus relate to RSA?

Mod7 was 6 = -1 in a previous slide and later in the example it was equal to 1, why is that?

What would more advanced applications of this look like?

I was not sure how did you 3=6 in terms of the circle. Any suggestions?

when you did the 2ⁿ does it repeat every 3 digits up until infinity?

What is an applicable use for this topic?

How would you find k so that it is not the same every time?

No questions. I guess I'm just more interested now how this will factor into RSA.