

Untitled

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Part 1: Paradox

I did not come up with this, but also didn't just google it.

An omnipotent god creates a stone that they can't lift. What happens if they try to lift the stone?

Part 2: Sets and Congruents

Sets and power sets:

```
f = function(set) {  
  n = length(set)  
  masks = 2^(1:n-1)  
  lapply(1:2^n-1, function(u) set[bitwAnd(u, masks) != 0] )  
}  
#f(LETTERS[1:4])
```

Computations:

Question 3: Find 3 different values of x , then describe all integers that satisfy the congruence.

1. $x \equiv 1 \pmod{2}$
2. $x \equiv 0 \pmod{5}$
3. $x \equiv 3 \pmod{10}$

Proofs:

Question 5: If n is odd, then $8 \mid (n^2 - 1)$.

Part 3: Reflection

I woke up in the middle of the night, and could not fall back asleep. I kept thinking “what am I doing with my life”.