

## Pow Solution 1/16/17

Note: for integers  $k$ , perfect squares  
one of the form  $4k$  or  $4k + 1$ .

$$\text{Now } 11 \equiv 3 \pmod{4}$$

$$111 \equiv 3 \pmod{4}$$

$\vdots$

$$11 \dots 11 \equiv 3 \pmod{4}$$

All numbers of this form, except  
for 1 have a remainder 3 after  
division by 4. Thus they cannot  
be perfect squares. The only perfect  
square of this form is 1.