

## Set 7 - Homework

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**Name:**

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(1) Can we solve the simultaneous congruence  $x \equiv 1 \pmod{4}$  and  $x \equiv 0 \pmod{6}$ ?

(2) Let  $f_n$  denote the  $n$ -th Fibonacci number. Show that  $f_n \leq 2^n$  for every  $n$ . You may need to use strong induction.