Discrete Mathematics
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Exam 2
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1. Find an explicit formula for the following recurrence sequence.

$S_0 = 1$
$S_1 = 2$
$S_n = 4 S_{(n-1)} - 4 S_{(n-2)}$ for n>1

2. How many positive integers <= 200 which are not multiples of 3, 4, or 10?

3. Let A = {1, 2, 6, 10, 15, 30} and R = {(a,b) | a divides b}.
Find the elements of R and determine true or false the following properties for R.

A) Reflexive
B) Symmetric
C) Anti-symmetric
D) Transitive
E) Equivalence relation

4. Find the GCD of 278 and 144 using the algorithm.