## Announcements:

1. HW 3 Due Tonight at 11:55PM.
2. Exam dates: Tuesday Sept 30, Tuesday, November 4. In-class. Not in schedule page yet.

- If you are allowed extra time for the exam and plan to use that time, please talk with me soon about timing.

3. Don't use a pirated copy of the textbook!

## Main ideas from today:

1. Prove by induction that in an Odd Pie Fight, at least one participant does not get hit by a pie.
2. What problem does Euclid's Algorithm solve?
3. Show the recursive calls for Euclid's Algorithm applied to $a=188$ and $b=144$.
4. The following two conditions imply that $d=\operatorname{gcd}(a, b)$ :
a.
b.
5. Use the extended Euclid algorithm to find integers x and y such that $\mathrm{x} * 25+\mathrm{y} * 11=1$.
6. $r$ is an inverse of $m(\bmod N)$ iff $r m \equiv 1(\operatorname{Mod} N)$. Show that a number $m$ cannot have two different inverses $(\bmod N)$ that are both in range $1 \ldots \mathrm{~N}-1$
7. What is the inverse of $11(\bmod 25)$ ?
