The following property of modular arithmetic will be helpful in solving some problems

- \([(a \text{ mod } n) + (b \text{ mod } n)] \text{ mod } n = (a + b) \text{ mod } n\)
- \([(a \text{ mod } n) - (b \text{ mod } n)] \text{ mod } n = (a - b) \text{ mod } n\)
- \([(a \text{ mod } n) \times (b \text{ mod } n)] \text{ mod } n = (a \times b) \text{ mod } n\)
- \((-1) \text{ mod } n = n - 1\) (Using \(b = q.n + r\), with \(b = -1\), \(q = -1\) and \(r = n-1\))

9.8.11 (We did this in class!!)
9.8.13 (For \(n-1\) case, you could use induction and the properties of modular arithmetic)
10.10.8 (Hint: use the properties above).