Homework Solutions
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Exercise 32

(a) The member with label 17 will selected if and only if the member with label 3 is selected, and that member has a 1/14 chance. So member 17 has a 1/14 chance. In fact, every member has a 1/14 chance.

(b) If member 17 is selected, then member 3 must have been selected. Divide 555 by 14 to get 39 with a remainder of 9. That tells us that there are 39 complete blocks, but the 40th block has only 9 members. So we are guaranteed to get one member from each of the 39 complete blocks. We will also get a member from the 40th block provided our random integer was no greater than 9. It was 3, so we will get a 40th member. Therefore, our sample size will be 40.