

## Math 110 – Mathematical Explorations

Block 4 2005

### Individual Problems #2, due Thursday, December 8

Please explain your solutions clearly, and provide justification for all your claims. You may consult your notes and the textbook, and you may use a calculator or computer algebra system if you like. You may not discuss these problems with any person other than me, and you may not consult other books. Feel free to come talk to me or e-mail me with questions.

1. Find all integers  $x$  that satisfy the equivalence  $2x \equiv 5 \pmod{7}$ .
2. Section 2.7: 37, 38
3. Imagine that the pattern shown below continued in infinite detail. Are there a countable or uncountable number of bat-creatures in the picture? Justify your answer.

