**ECS20**

Discussion 6: 10/27 to 11/2 2016

**Exercise 1: proofs**

1. Let *x* and *y* be two integers. Show that if *2x+5y = 14* and *y ≠2*, then *x≠2*
2. Let *x* and *y* be two integers. Show that if *x2+y2* is odd, then *x+y* is odd

**Exercise 2: floor and ceiling**

1. Let *x* be a real number. Show that 
2. Show that if *n* is an odd integer, then 

**Exercise 3: Growth of functions**

1. Show that if a function *f(x)* from R to R is *O(x)*, then *f(x)* is *O(x2)*.
2. Show that the function  is 

**Exercise 4: Algorithms**

Describe an algorithm that interchanges the values of the variables *x* and *y*, using only assignments.