2.3

6a) domain is (a,b) for all positive integers when a and b are integers. Range is all integers.
6b) Domain is all positive integers and range is all integers from 1 to 9.
6d) Domain is all positive integers and range is all natural numbers

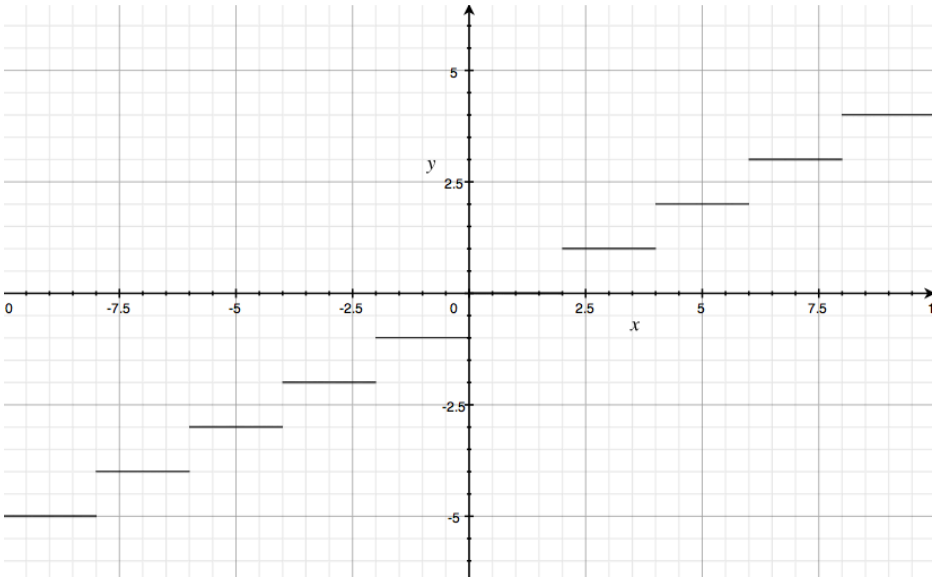
1. a) yes, b) no c) yes d) no

1. a) yes b) yes c) yes d) yes e) no

1. a) n+1 b) ceiling(sqrt(n)) c) ceiling(n-.5) d) ceiling(sqrt(n+1))

1. f * g is x^2 + 4x + 5 and g*f is x^2 + 3

64.



74. b) This is false. If we let x be in terms of n where n is the floor of x and x in terms of n is x=n+d and we similarly define y, we see that when the sum of the d of x and the d of y is greater than or equal to 1, we get a result that is a counterexample to this statement.
c)

d)

1. We can see this because the result of a | b is some integer, g, and after dividing cd by a, we then have remaining g*d, which we know is divisible by b because g*d is just a multiple of d.

10 a) quotient is 5, remainder is 4.
i) quotient is -6, remainder is -9
b) quotient is -23, remainder is 1
c) quotient is 1233, remainder is 334

1. a)

c)

e)

28.

38.