

# Problem Sheet 1

*Directions:* You may either choose to do the large assignment or do all of short assignments. We do not value doing one over the other and both are equally challenging.

## Big Assignment

## Smaller Assignments

Q1. `makePerfectSquare(int x)`: A perfect square is a number that has a rational square root. 4, 9, 16, and 25 are examples of perfect squares. Create a method that accepts an integer and then returns the square of that number. For example:

`makePerfectSquare(10)` should return 100  
`makePerfectSquare(5)` should return 25  
`makePerfectSquare(15)` should return 225  
etc...

Q2. `isFactor(int a, int b)`: Given two integers `a` and `b`, return `true` if `b` is a factor of `a` (the remainder when `b` divides `a` is 0). Return `false` otherwise.

`isFactor(15, 5)` should return `true`  
`isFactor(10, 2)` should return `true`  
`isFactor(20, 3)` should return `false`  
etc...

Q3. `isSpecial(int a, int b)`: