Assignment 2
FN204
Algorithms in Ancient India

March 16, 2018

Instructions:

- Due date for submission: 27^{th} March 2018.
- Attempt all questions.
- Numbers to the right of each question indicate the marks.

1. Give a step by step procedure to draw a square using a rope, as described in the Śulvasūtras. -- (5)
2. Use the procedure too convert a rectangle into a square to find the approximate value of $\sqrt{5}$. -- (10)
3. Using Kuṭṭaka's method solve the following equations. -- (15)
   - $3y = 8x + 5$
   - $3y = 8x - 5$
   - $3y = -8x + 5$
   - $3y = -8x - 5$
4. How many permutations are there with 5 digits 1,2,2,3,and 3 ? Also find the sum of all these permutations. -- (5)
5. How many permutations of non-zero digits are there in 5 places ? -- (5)