

ENGR 1204 Programming Languages in Engineering

Homework 1

The problems are from S. Attaway, MATLAB – A Practical Introduction to Programming and Problem Solving (5th Edition).

For each problem, print out the script file if created and the relevant Command Window output. In later assignments plots may need to be printed as well. Also, show analytical work where appropriate.

(15 points each) Chapter 1 – Exercises 9, 12, 15, 35

(15 points) Chapter 3 – Exercises 2

(25 points) Problem 6.

If the lengths of two sides (b and c) of a triangle and the angle between them (β) are known, the length of the third side (a) can be calculated. Given β in degrees, a is calculated as follows:

$$a^2 = b^2 + c^2 - 2bc \cos(\beta)$$

Write a script `thridside.m` that will prompt the user and read in values for b, c and α (in degrees), and then calculate and print the value of a, with 3 decimal places. The format of the output from the script should look exactly like this:

```
>>thridside
```

```
Enter the first side: 2.2
```

```
Enter the second side: 4.4
```

```
Enter the angle between them in degrees: 50
```

```
The third side is 3.429
```