

Homework Assignment for Week 05

1. Section 10.9: Problems 7, 9, 17, 19, 33, 41, 42, 50(a), 51.

Hint for problem 50(a): use the fact $\sin P = \sin(\pi - P)$.

Remark: (Optional, not part of homework assignment) If you are interested, you can observe how fast this iteration $P_k \mapsto P_{k+1} = P_k + \sin(P_k)$ converges to π . Try, for example, the following commands in matlab:

```
format long;
```

```
P = 2;
```

```
P = P + sin(P); error = abs(P-pi)
```

Repeat the last command a few times (using the 'upper arrow' key in your keyboard), you will see the error decreases rapidly. It converges even faster than Newton's method.

2. Section 10.10: Problems 10, 19, 27, 64, 65.

Remark: The following are homework assignments for week 6:

Section 10.10: Problems 31, 35, 37, 43, 46, 66.