Appendix

- 3(a)

```
>> a1

tension =

   70.0000
   93.3333
   70.0000
    8.4000


kappa =

  534.3333


max_tension =

   93.3333


tension =

   70.0000
  120.0000
  150.0000
  160.0000
  150.0000
  120.0000
   70.0000
    8.4000


kappa =

        2401


max_tension =

  160.0000


tension =

   70.0000
  130.6667
```

```
  182.0000
  224.0000
  256.6667
  280.0000
  294.0000
  298.6667
  294.0000
  280.0000
  256.6667
  224.0000
  182.0000
  130.6667
   70.0000
    8.4000


kappa =

   1.0134e+04


max_tension =

  298.6667


tension =

   70.0000
  135.4839
  196.4516
  252.9032
  304.8387
  352.2581
  395.1613
  433.5484
  467.4194
  496.7742
  521.6129
  541.9355
  557.7419
  569.0323
  575.8065
  578.0645
  575.8065
  569.0323
  557.7419
  541.9355
  521.6129
  496.7742
  467.4194
  433.5484
  395.1613
  352.2581
  304.8387
  252.9032
  196.4516
```

```
  135.4839
   70.0000
    8.4000


kappa =

   4.1601e+04


max_tension =

  578.0645
```

```
>> a2

tension =

   40.6554
   57.6209
   46.1445
    7.9723


max_tension =

   57.6209


tension =

   49.2640
   88.1810
  118.5932
  140.2088
  132.1716
  114.9699
   67.4651
    8.2501


max_tension =

  140.2088


tension =

   63.5828
  123.3437
  179.3292
  215.0138
  249.7238
  270.1365
  282.4154
  286.6888
  285.9224
```

```
  270.2156
  239.7655
  205.8997
  168.2215
  118.5321
   65.2779
    8.4014


max_tension =

  286.6888


tension =

   62.9462
  124.0765
  183.2369
  235.7412
  286.1178
  332.4689
  373.7173
  410.8183
  441.0051
  467.1533
  491.3640
  512.2901
  531.0976
  547.7831
  552.0703
  555.3762
  554.9150
  547.2686
  536.7874
  524.7013
  507.5338
  484.3778
  458.8084
  429.3420
  394.1113
  349.6116
  299.7345
  247.9285
  195.5936
  139.4205
   73.5348
    8.3200


max_tension =

  555.3762
```

- 3(b)

```
>> b1

L =

   (1,1)        1
   (2,1)       -1
   (2,2)        1
   (3,2)       -1
   (3,3)        1
   (4,3)       -1
   (4,4)        1


U =

   (1,1)       1.0000
   (2,2)       1.0000
   (3,3)       1.0000
   (1,4)     -50.0000
   (2,4)    -116.6667
   (3,4)    -200.0000
   (4,4)    -300.0000


P =

   (1,1)        1
   (2,2)        1
   (3,3)        1
   (4,4)        1
```