Q.1

z = 2 0 2 0 2 0 2 0

z1 = 4 0 0 0 4 0 0 0

z2 = 8 0 0 0 0 0 0 0

Q.2

y1 = 2 2 2 2 0 0 0 0

y2 = 4 4 0 0 0 0 0 0

y3 = 8 0 0 0 0 0 0 0

Q.3

z = 5 -3 5 1 5 -1 5 3

z1 = 10.0000 + 0.0000i -3.0000 - 1.0000i 0.0000 + 0.0000i -3.0000 + 1.0000i 10.0000 + 0.0000i -1.0000 - 3.0000i 0.0000 + 0.0000i -1.0000 + 3.0000i

z2 = 20.0000 + 0.0000i -5.8284 - 2.4142i 0.0000 + 0.0000i -0.1716 - 0.4142i 0.0000 + 0.0000i -0.1716 + 0.4142i 0.0000 + 0.0000i -5.8284 + 2.4142i

Q.4

y1 = 5.0000 + 0.0000i 5.0000 + 0.0000i 5.0000 + 0.0000i 5.0000 + 0.0000i -3.0000 + 0.0000i -0.7071 + 0.7071i 0.0000 - 1.0000i -2.1213 - 2.1213i

y2 = 10.0000 + 0.0000i 10.0000 + 0.0000i 0.0000 + 0.0000i 0.0000 + 0.0000i -3.0000 - 1.0000i -2.8284 - 1.4142i -3.0000 + 1.0000i 2.8284 - 1.4142i

y3 = 20.0000 + 0.0000i -5.8284 - 2.4142i 0.0000 + 0.0000i -0.1716 - 0.4142i 0.0000 + 0.0000i -0.1716 + 0.4142i 0.0000 + 0.0000i -5.8284 + 2.4142i