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2) b) Results:

```
x2 =

    1.0000
   -0.0000
   -1.0000


l2 =

  -5.8076e-09

Iteration 1: x = [1.000000; -0.142857; -0.714286]
Iteration 2: x = [0.058824; 1.000000; 0.058824]
Iteration 3: x = [1.000000; -0.018182; -0.963636]
Iteration 4: x = [0.006211; 1.000000; 0.006211]
Iteration 5: x = [1.000000; -0.002053; -0.995893]
Iteration 6: x = [0.000686; 1.000000; 0.000686]
Iteration 7: x = [1.000000; -0.000229; -0.999543]
Iteration 8: x = [0.000076; 1.000000; 0.000076]
Iteration 9: x = [1.000000; -0.000025; -0.999949]
Iteration 10: x = [0.000008; 1.000000; 0.000008]
Iteration 11: x = [1.000000; -0.000003; -0.999994]
Iteration 12: x = [0.000001; 1.000000; 0.000001]
Iteration 13: x = [1.000000; -0.000000; -0.999999]
Iteration 14: x = [0.000000; 1.000000; 0.000000]
Iteration 15: x = [1.000000; -0.000000; -1.000000]
```

Two of the values in the returned eigenvector are 1 and -1. It seems that the power method function is having a hard time converging due to the numbers being similar.

c) Results:

```
Iteration 1: x = [1.000000; -1.000000; 1.000000]
```

This happens because the starting vector is already a solution, or the eigenvector, of the given matrix, B.

4) a) Results:

```
l1 =

    0.9106
```

Because the biggest eigenvalue is less than 1, the population will eventually become extinct.

b) Results:

```
P1 =

  4.4949e-120
```

This does agree with the previous method, and the population will eventually become extinct.

c) Results:

```
l2 =

    1.0734


P_2 =

   2.7774e+33
```

Since the biggest eigenvalue of the matrix with the new death rate is greater than 1, the population will grow to infinity. The population calculation reflects this as well.