GHOST SENSOR MODEL.

The following lines show sample values of Pacman’s position, the ghost sensor distance reading (observation), and the sensor model (emissionModel):

pacmanPosition (5, 5)
observation 4
emissionModel {0: 0, 1: 0.081151832460733, 2: 0.08376963350785341, 3: 0.16753926701570682, 4: 0.33507853403141363, 5: 0.16753926701570682, 6: 0.08376963350785341, 7: 0.041884816753926704, 8: 0.020942408376963352, 9: 0.006684816753926708, 10: 0.005235602094240838, 11: 0.002617801047120419}

Q1. What is the most likely distance to the ghost? Name two ways you know your answer to be correct.

Q2. Hand-draw a graph below that represents the emission model. The X-axis should be the distance and the Y-axis should be the associated probability. Attempt to draw to scale (but don’t go crazy).
Q3. Here is another emission model. What is the most likely distance to the ghost?

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emissionModel {0: 0, 1: 0.002617801047120419, 2: 0.005235602094240838, 3: 0.010471204188481676, 4: 0.020942408376963352, 5: 0.041884816753926704, 6: 0.08376963350785341, 7: 0.16753926701570682, 8: 0.33507853403141363, 9: 0.16753926701570682, 10: 0.08376963350785341, 11: 0.041884816753926704, 12: 0.020942408376963352, 13: 0.010471204188481676, 14: 0.005235602094240838, 15: 0.002617801047120419}
```

Q4. What is the sum of the individual probabilities in the emission model?

Q5. Does this make sense? Why or why not?