

$$\sum_{n=1}^{\infty} \left(n \left(\left(\frac{7}{8} \right)^{n-1} - \left(\frac{7}{8} \right)^n \right) \right) = 8$$

```
import numpy as np
max = 100000
occurrences = np.count_nonzero(np.random.randint(low=1, high=9, size=max)
    == 2)
average_distance = (max - occurrences)/occurrences + 1
print(average_distance)
```
