$$\sum_{n=1}^{\infty} \left(n \left(\left(\frac{5}{8} \right)^{n-1} - \left(\frac{5}{8} \right)^{n} \right) \right) = \frac{8}{3} = 2.\overline{4}$$

```
import numpy as np

max = 100000
sample = np.random.randint(low=1, high=9, size=max)
occurances = np.count_nonzero(np.logical_or(np.logical_or(sample == 4,
    sample == 6), sample == 8))
average_distance = (max - occurances)/occurances + 1
print(average_distance)
```