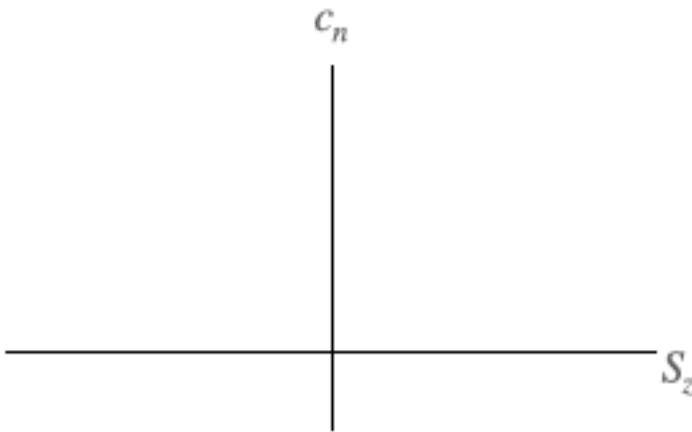Represent the state:

$$|\psi\rangle = \frac{1}{3}|+\rangle + \frac{\sqrt{8}}{3}e^{i\pi/4}|-\rangle$$

1. in matrix notation (using the S_z basis)

2. with a graph of the coefficients (probability amplitudes)

3. with the arms representation

4. with a probability histogram