

CS 179/4/20/01

FINE TO UNMUTE + TACK.

$$n = 4$$

(N STATE = 2

$$|x_2\rangle \rightarrow \begin{bmatrix} 0 \\ 0 \\ 1 \\ 0 \end{bmatrix}$$

$$\begin{bmatrix} 3 \\ 4 + i \\ -2i \\ 0 \end{bmatrix}$$

$$P(x_2) = \frac{(-2i)^2}{3^2 + (4+i)^2 + (-2i)^2 + 0^2}$$

$$\frac{3^2 + (4+i)^2 + (-2i)^2 + 0^2}{3^2 + (4+i)^2 + (-2i)^2 + 0^2}$$

EX 4.1.6 p 113

$$\frac{1}{\sqrt{2}} \begin{pmatrix} 1 \\ 1 \end{pmatrix} \longrightarrow \frac{1}{\sqrt{2}} \begin{pmatrix} 1 \\ -1 \end{pmatrix}$$

WHAT'S PROBABILITY OF THAT TRANSITION

LHS: STATE BEFORE MEASUREMENT

RHS: ONE POSSIBLE STATE AFTER

$$\left( \frac{1}{\sqrt{2}}, \frac{-1}{\sqrt{2}} \right) \cdot \left( \frac{1}{\sqrt{2}}, \frac{-1}{\sqrt{2}} \right)$$

$$= \frac{1}{2} (1 + 1) = \frac{2}{2} = 1$$