$p(\mathbf{y}|\mathbf{x})p(\mathbf{x})$

 $p(\mathbf{y})$

 $p(\mathbf{x}|\mathbf{y}) =$

 $p(\mathbf{y}|\mathbf{x})p(\mathbf{x})$

 $\int p(\mathbf{y}, \mathbf{x}) d\mathbf{x}$