

assn2.1

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1. $P(Dog) = \frac{1}{2}$, $P(Cat) = \frac{1}{2}$

(a) $P(Dog|Dog) = \frac{P(Dog \wedge Dog)}{P(Dog)} = \frac{\frac{1}{4}}{\frac{1}{2}} = \frac{1}{2}$

(b) $P(\text{At least one Dog}|Dog) = P(1 - P(\text{No Dogs})|Dog) = \frac{\frac{3}{4}}{\frac{1}{2}} = \frac{3}{2}$