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sub. __BD (Test)__

Training	just plain boring	−
	entirely predictable and lacks energy	−
	no surprises and very few laughs	−
	very powerful	+
	the most fun film of the summer	+
Test	predictable with no fun.	?

$P(-) = 3/5$ $P(+) = 2/5$

conditional probability

$$P(\text{predictable} \mid -) = \frac{1+1}{14+20} = \frac{2}{34} = \frac{1}{17}$$

$$P(\text{with} \mid -) = \frac{0+1}{14+20} = \frac{1}{34}$$

$$P(\text{no} \mid -) = \frac{1+1}{14+20} = \frac{1}{17}$$

$$P(\text{fun} \mid -) = \frac{0+1}{14+20} = \frac{1}{34}$$

$$P(\text{predictable} \mid +) = \frac{0+1}{9+24} = \frac{1}{34}$$

$$P(\text{with} \mid +) = \frac{0+1}{9+24} = \frac{1}{33}$$

$$P(\text{no} \mid +) = \frac{0+1}{9+24} = \frac{1}{33} \qquad P(\text{fun} \mid +) = \frac{1+1}{9+24} = \frac{2}{33}$$

choosing the final cat

$$P(+|test) = P(predictable|+) * P(with|+) * P(no|+) \times P(fun|+) \times P(+)$$

$$= \frac{1}{33} \times \frac{1}{33} \times \frac{1}{33} \times \frac{2}{33} \times \frac{2}{5}$$

$$= \frac{4}{5929605} = 6.74^{-7} \approx 0.0000007$$

$$P(-|test) = P(predictable|-) \times P(with|-) \times P(no|-) \times P(fun|-) \times P(-)$$

$$= \frac{1}{17} \times \frac{1}{34} \times \frac{1}{17} \times \frac{1}{34} \times \frac{3}{5}$$

$$= \frac{3}{1670420} \approx 0.000002$$

✮ Final cat will be (−) (negetive)