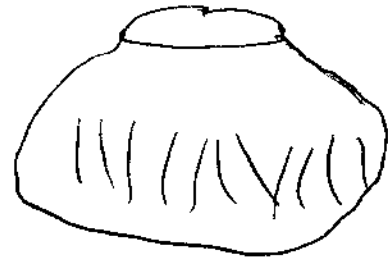


Which is the better plan?

KEEP THE CARD



BET THE CARD



EXPECTED VALUE

event	\$	prob
win	p	100%
lose	0	0%

$$EV = 1p + 0 \cdot 0$$

$$= \$p$$

event	\$	prob
win	$365p$	$1/n$
lose	0	$1 - 1/n$

$$EV = 1/n \cdot 365p + (1 - 1/n) \cdot 0$$

$$= \$ \frac{365p}{n}$$

p = price of coffee
 n = number entrants

EV is equal when $p = \frac{365p}{n}$ or $n = 365!$

ADVICE:

Keep the card if the bowl has more than 365 cards. Bet the card if there are fewer.