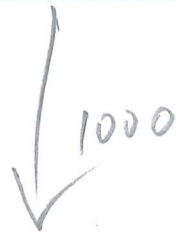
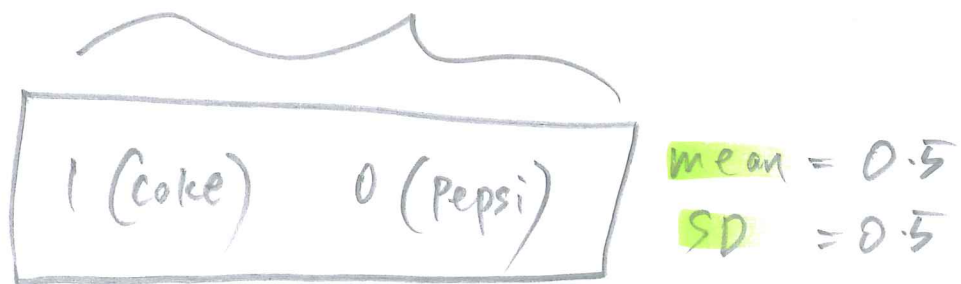


$$H_0: p = P(\text{Coke preference}) = 0.5$$



OV = 520

sample sum

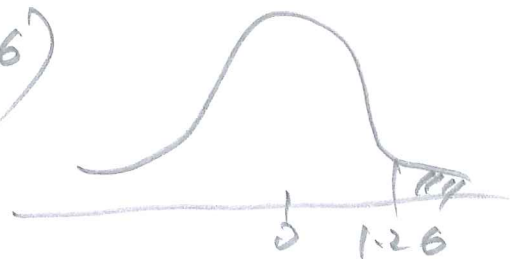
$$EV = 1000 \times \text{mean} = 500$$

$$SE = \sqrt{1000 \times SD} = 15.8$$

[H] $H_0: p = 0.5$
 $H_1: p \neq 0.5$

[T] $TS = \frac{OV - EV}{SE} = \frac{520 - 500}{15.8} = 1.26$

[P] $p\text{-val} = 2 P(\text{Normal} > 1.26)$
 $= 0.2$



[C] Retain H_0 ... Data consistent with H_0 .
The Coke marketing team needs to work harder :)