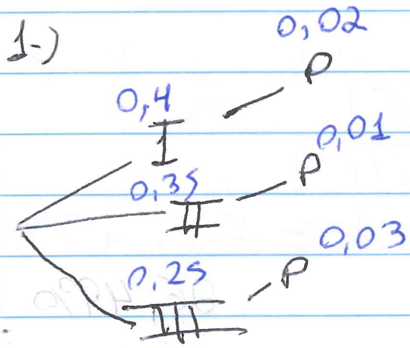
Erickson Giesel Miller

1-)



a) $P(II|P)$

$$\frac{0,35 \cdot 0,01}{0,4 \cdot 0,02 + 0,35 \cdot 0,01 + 0,25 \cdot 0,03} = \frac{0,35 \cdot \cancel{10^{-2}}}{0,8 \cdot \cancel{10^{-2}} + 0,35 \cdot \cancel{10^{-2}} + 0,75 \cdot \cancel{10^{-2}}}$$

$P(II|P) = \frac{0,35}{1,9} = 18,42\%$ 18,42%

1,0

b) $P(I|P) + P(III|P) = P(\overline{II}|P)$

$P(\overline{II}|P) = 100 - 18,42\% = 81,58\%$

81,58%

2-) $P(A) = 0,2$

$P(\overline{A}) = 0,8$

1,0

a)

$P(0) = 0,2^0 \cdot 0,8^{14} \cdot \frac{14!}{14! \cdot 0!} = 0,8^{14} = 4,4\%$

4,4% 1,0

b)

$P(\leq 1) = P(0) + P(1) = 0,8^{14} + 0,2^1 \cdot 0,8^{13} \cdot \frac{14!}{13! \cdot 1!}$

$P(\leq 1) = 0,04398 + 14 \cdot 0,01099 = 19,79\%$

19,79%

1,0

3-) $P(\geq 1) = 1 - P(\bar{0})$ $p = 0{,}05$ $\bar{o} = 0{,}95$

a)

$P(\bar{0}) = 1 - 0{,}05^0 \cdot 0{,}95^6 \cdot \frac{6!}{6!\,0!}$

$P(0) = 1 - 0{,}95^6 = 1 - 0{,}7351 = 26{,}49\%$

26,49%   c 1,0

b)

$P(\leq 2) = P(0) + P(1) + P(2)$

$P(0) = 0{,}05^0 \cdot 0{,}95^6 \cdot \frac{6!}{6!\,0!} = 0{,}7351$

$P(1) = 0{,}05^1 \cdot 0{,}95^5 \cdot \frac{6!}{5!\,1!} = 0{,}2321$

$P(2) = 0{,}05^2 \cdot 0{,}95^4 \cdot \frac{6!}{4!\,2!} = 0{,}0305$

$P(\leq 2) = 0{,}7351 + 0{,}2321 + 0{,}0305 = 0{,}9977$ $P(\leq 2) = 99{,}77\%$

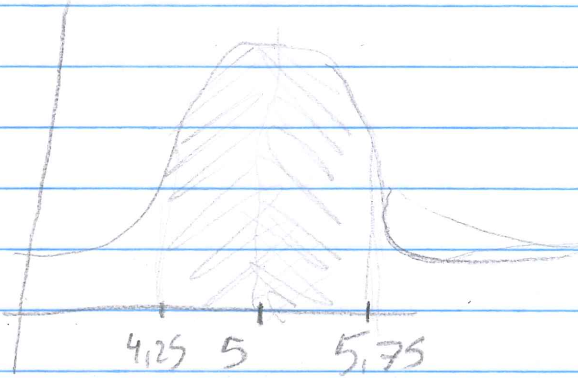
99,77%

c 1,0

4-)

a) $\frac{4250-5000}{750} = -1$

$\frac{5750-5000}{750} = 1$



$P(-1 \leq z \leq 1) = 0{,}3413 + 0{,}3413 = 68{,}26\%$

68,26%   c 1p

b) $\frac{5500-5000}{750} = 0{,}67 = 24{,}86\%$

24,86%

$\frac{1}{\infty} \cong 0\%$

5-)

a) $\frac{24-45}{12} = -1{,}75$ | $\frac{54-45}{12} = 0{,}75$

c 1p

$P(-1{,}75 \leq z \leq 0{,}75) = 0{,}4599 + 0{,}2734$

147 compradores

R = 147 compradores $R = 73{,}33\% \times \frac{200}{100}$

b)

$\frac{39-45}{12} = -0{,}5$ $P(z > 0{,}5) = 0{,}5 + 0{,}1915$

$R = 0{,}6915 \times 200$

138 compradores

R = 138 compradores   c 1p