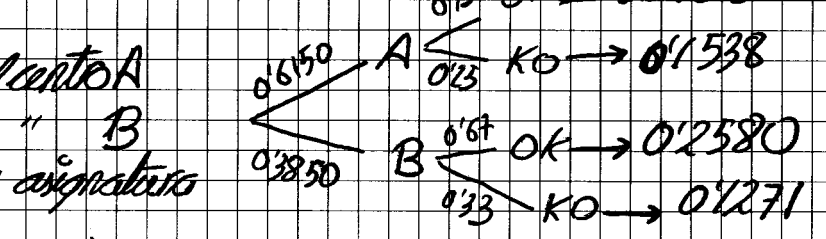
COLEGIO ALMA'S
bilingual school

APELLIDOS Y NOMBRE: Corrección Pendiente 1
CURSO: 2º Bachillerato Nº 1ª Evaluación
FECHA: 23-11-2017 ASIGNATURA: Matemáticas
CC 562

1. Leyenda:
A = alumno procedente del centro A
B = " " " " B
OK = " que supera la asignatura



a) $P(A/KO) = \frac{P(A)P(KO/A)}{P(KO)} = \frac{0'1538}{0'1538+0'1271} = \boxed{0'5475}$

b) $P(OK) = P(A)P(OK/A) + P(B)P(OK/B) = 0'4613 + 0'2580 = \boxed{0'7193}$

2. $p = 0'60$ $q = 0'40$ $n = 800$

a) $np = 800 \cdot 0'60 = 480$ alumnos

b) $x \approx B(800, 0'60) \leftarrow \begin{matrix} n = 800 > 30 \\ np = 480 > 5 \\ nq = 320 > 5 \end{matrix} \rightarrow x \approx N(480, 13'86)$

$P(X > 500) = P(Z \geq \frac{500-480}{13'86}) = P(Z \geq 1'44) = 1 - P(Z \leq 1'44) = 1 - 0'9251 = \boxed{0'0749}$

c) $P(470 \leq X \leq 500) = P(-0'72 \leq Z \leq 1'44) = P(Z \leq 1'44) + P(Z \leq 0'72) - 1$
$= 0'9251 + 0'7642 = \boxed{0'6893}$

3. $\sigma = 0'1$

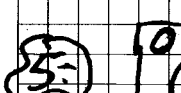
a) $n = 36$ $\bar{X} = 2$ $\alpha = 0'01 \rightarrow z_{\alpha/2} = 2'575$
$\left[2 - 2'575\frac{0'1}{\sqrt{36}}, 2 + 2'575\frac{0'1}{\sqrt{36}}\right] \rightarrow [1'9571, 2'0429]$

b) $EMC = 0'02$ $n = 100 \rightarrow z_{\alpha/2} = \frac{EMC \cdot \sqrt{n}}{\sigma} = \frac{0'02 \cdot \sqrt{100}}{0'1} = 2$
$\alpha = 2 - 2 \cdot 0'9772 = 0'0456 \rightarrow \boxed{95'44\%}$

4. $\sigma = 20$ $n = 100$ $\bar{X} = 170$

a) $\alpha = 0'1 \rightarrow z_{\alpha/2} = 1'645$ $\left[170 - 1'645\frac{20}{\sqrt{100}}, 170 + 1'645\frac{20}{\sqrt{100}}\right] = [166'72, 173'28]$

b) $EMC = 0'5 \rightarrow \alpha = 0'01 \rightarrow z_{\alpha/2} = 2'575 \rightarrow n = \left(\frac{2'575 \cdot 20}{0'5}\right)^2 = \boxed{10609}$ sale exacto!!!

5. 

$P(H \cup O) = 0'40 + 0'15 + 0'05 = \boxed{0'60}$