a) 0,4375 0,75
0,025

b) $Q_1 \simeq 14,5$ $S_1 \simeq 10,75$ at less [19,21] 2/
$Q_3 = 17$ $S_2 \simeq$ ~~[illegible]~~ 20,6 (21,23) 1

c) $F(x=18) \simeq 0,85$ % → ~~[illegible]~~ 15,89%

d) $\sigma^2 = 2,95$ $\sigma = 1,72$
$g_1 \simeq 0,73$ $g_2 \simeq 0,58$
a bit right + ~~[illegible]~~ lepto ⇒ Normal

e) $\bar{x} = 15,98$ $\sigma^2 = 2,95$ $\sigma = 1,72$ $C_v = 0,11$
$\bar{y} \simeq 8,99$ $\sigma_y = 0,86$ $C_v = 0,096$

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a) $\bar{X} = 23,5$
$\bar{Y} = 4,75$
$\sigma_x^2 = 26,75$
$S_y^2 =$ ~~[illegible]~~ $4,6357$
$\sigma_{xy} = -10,87$
$r^2 = 0,94$

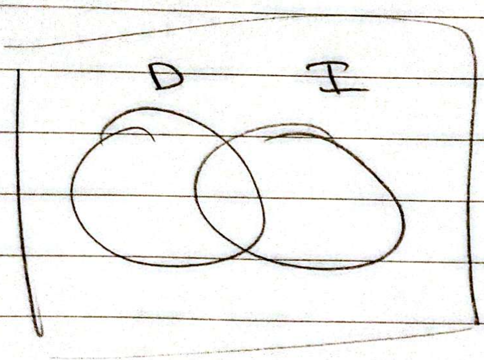
b) $(Y - 4,75) = \frac{-10,87}{26,75}(x - 23,5)$
$Y(12) = 9,42$ days

c) $-0,40$ $\frac{\text{days}}{°C}$

d) $X(3d) = 27,5\,°C$

e) 12°C and 9,76 days is not reliable

3



$P(D) = 0{,}08$

$P(I) = 0{,}15$

$P(D|I) = 0{,}25$

a) $P(D|I) = \frac{P(D \cap I)}{P(I)} \Rightarrow P(D \cap I) = P(D|I) \cdot P(I)$

$P(D \cap I) = 0{,}0375$

$P(D \cup I) = 0{,}08 + 0{,}15 - 0{,}0375 = 0{,}1925$

b) $P(I \text{ only}) = 0{,}15 - 0{,}0375 = 0{,}1125$

c) $P(D|\bar{I}) = \frac{P(D \cap \bar{I})}{P(\bar{I})} = \frac{P(D) - P(D \cap I)}{P(\bar{I})} =$

$= \frac{0{,}08 - 0{,}0375}{1 - 0{,}15} = 0{,}05$

d)

$P(D|I) = P(D)$

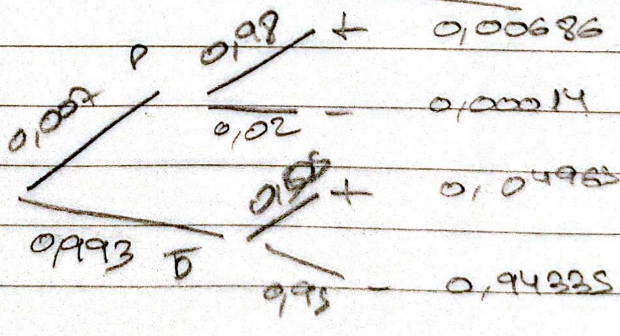
$0{,}0375 \neq 0{,}08 \Rightarrow$ not indep

4

sens $P(+|D) = 98\%$

esp $P(-|\bar{D}) = 95\%$

$P(D) = 0{,}007$



$P(D|+) = \frac{P(D \cap +)}{P(+)} = \frac{0{,}007 \cdot 0{,}98}{0{,}007 \cdot 0{,}98 + 0{,}993 \cdot 0{,}05} = 0{,}121$

$P(\bar{D}|-) = \frac{P(\bar{D} \cap -)}{P(-)} = \frac{0{,}993 \cdot 0{,}95}{0{,}993 \cdot 0{,}95 + 0{,}007 \cdot 0{,}02} = 0{,}9998$

$P(\text{correct}) = 0{,}007 \cdot 0{,}98 + 0{,}993 \cdot 0{,}95 = 0{,}95021$

Escaneado con CamScanner

⑤ $p = 0{,}97$ $\qquad \bar{p} = \cancel{0{,}9\ldots}\ 0{,}03$

$P(x \geq 8) = P(8) + P(9) + P(10) = 0{,}9972$

$P(8) = \binom{10}{8} \cdot 0{,}97^8 \cdot (1-0{,}97)^{10-8} = 0{,}0317$

$P(9) = \cdots = 0{,}2281$

$P(10) = 0{,}7374$

$\lambda = 200 \cdot 0{,}03 = 6$

$P(x \leq 4) = P(0) + P(1) + P(2) + P(3) + P(4)$

$= e^{-6}\left(\frac{6^0}{0!} + \cdots + \frac{6^4}{4!}\right) = 0{,}2851$

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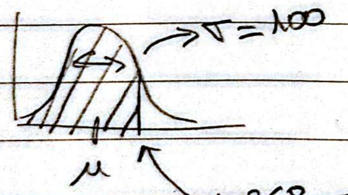
⑥



$x = 368g \rightarrow z = \frac{368-\mu}{100}$

$P = 0{,}75$

$P(x \leq 368) = P\left(z \leq \frac{368-\mu}{100}\right) = 0{,}75$

$P(z < 0{,}675) = 0{,}75$

$\left.\right\} \frac{368-\mu}{100} = 0{,}675$

$\mu = 300g$

b) $P(x \geq 444g) = 1 - P\left(z \leq \underbrace{\frac{444-300}{100}}_{1{,}44}\right) = 1 - 0{,}9251 =$

$= 7{,}49\%$

$z < -1{,}29$

c) $P(172 < x < 444) = P(x < 444) - P(x < 172) =$

$= 0{,}9251 - 0{,}0985 = 82{,}6\%$