TAREFA: PROBABILIDADE II

1)

5 lâmpadas
- 3 funcionam → S
- 2 não funcionam → N

$3 \cdot 2 \cdot 2 \cdot 3! = 72 : 24 = 3$
$5 \quad 4 \quad 3 \quad 2! \quad 120 : 24 \quad 5$
S S D

R: B

2) $h(S) = 36$

$A = \{(1,2); (2,1)\} \rightarrow h(a) = 2$
$B = \{(1,5); (5,1); (2,4); (4,2); (3,3)\} \rightarrow h(b) = 5$

$$P(A \cup B) = \frac{2}{36} + \frac{5}{36} = \frac{7}{36}$$

R: C

3) A = população $\geq$ 110 mi
B = " $\leq$ 110 mi $\quad A \cap B = 110$ mi $\rightarrow P(A \cap B) = 1 = 100\%$

$$P(A \cup B) = P(A) + P(B) - P(A \cap B)$$

$1 = 0,95 + 0,08 - x$
$x = 0,95 + 0,08 - 1$
$x = 1,03 - 1$
$x = 0,03 \longrightarrow P(A \cap B) = 0,03 \rightarrow 3\%$

4) $S = \{101, 102, 103, 104, \ldots, 1000\}$
$h(s) = 900$

A cada 10 → 1 com final 0 → $900/10 = 90$
↳ 90+1

final 0: 91 num
s/ zero: 809 num

pares terminados em 5 → 9.10.5 = 450 (90 p/ cada)

→ final = 0 e final = 0 $\frac{91}{900} \cdot \frac{91}{900} = 0,01$

→ final ≠ 0 e final = 0 $\frac{809}{900} \cdot \frac{91}{900} = 0,09 = 9\%$

→ final = 0 e final ≠ 0 $\frac{91}{900} \cdot \frac{809}{900} = 0,09 = 9\%$

→ PAN e final = 5 $\frac{90}{900} \cdot \frac{90}{900} \cdot 4 = 0,04 = 4\%$

→ final 5 e PAN → $\frac{10}{100} \cdot \frac{90}{900} \cdot 4 = 0,04 = 4\%$

total: 27%

100 + 27 = 73%

6)

→ A, A, A = 1/2 . 1/2 . 1/2 = 1/8

→ A, A, B = 1/2 . 1/2 . 1/2 . 3 = 3/8

→ A, B, B = 1/2 . 1/2 . 1/2 . 3 = 3/8

→ B, B, B = 1/2 . 1/2 . 1/2 = 1/8

P = (1/8 . 1/8) + (3/8 . 3/8 + 3/8 + 3/8 + 1/8 + 1/8

P = 1/64 + 9/64 + 9/64 + 1/64 = $\frac{20^{:4}}{64^{:4}}$ = 5/16

R: D

7) 10 dias
- 7 alta
- 3 baixa

$C_{10,2} = \frac{10!}{2!(10-2)!} = \frac{10.9.8!}{2.1.8!}$ → 90/2 = 45

5	6, 7, 11, 12, 14	total vendas = 9
10	11, 12, 14	
13	14	

compras — Vendas

P = $\frac{9^{:9}}{45^{:9}}$ = 1/5

R: C

8) S = {1, 2, 3, 1, 2, 3, 1, 2, 3} → 9

E = (2, 3) e (3, 2) → 2

P = 2/9

R: D

9)

$C_{6,3} = \frac{6!}{3!3!} = \frac{6.5.4.3!}{3.2.1.3!} = 120/6 = 20$ p.

6.2 = 12 ▭ retangulos → P: $\frac{12 : 4}{20 : 4}$ → 3/5

R: C