

## TP1

### Complementarios

1) a)  $1, \dots, 8$   $\underline{7} \cdot \underline{6} \cdot \underline{5} \cdot \underline{4}$

b)  $4 \underline{5} \underline{6}$ ,  $4 \underline{3} \underline{6}$ ,  $4 \underline{7} \underline{6} \Rightarrow 6 + 18 + 168 = 192$

2) a)  $\binom{8}{4}$  y  $\binom{8}{5}$

b)  $2^4$

c)  $3 \cdot 2^7$

d)  $2^4$

3) a)  $9 \cdot 10^3$  b)  $5^4$  c)  $9 \cdot 10^2 \cdot 2$

4) a)  $\frac{994 - 105}{7} + 1 = 128$  b)  $9$

c)  $4: \frac{996 - 100}{4} + 1 = 225$  ; todos  $9 \cdot 10^2 - 225 = 675$   
-4

d)  $3: \frac{999 - 102}{3} + 1 = 300$   $12: \frac{996 - 108}{12} + 1 = 75$

Surp 344:  $225 + 300 - 75 = 450$

5)  $P(10, 3)^3 \cdot P(26, 3)^3$

6)  $0, \dots, 6 : 7 + 7 \cdot 6/2 = 28$   
 $0, \dots, 8 : 9 + 9 \cdot 8/2 = 45$

## TP2

1)  $\binom{10}{7}$  2)  $7^m$  3)  $\binom{5}{2}$

## TP3

1)  $x_1 + x_2 + \dots + x_5 = 36 - 4 - 11 - 7 = 14$   $\binom{4+14-1}{14} = \binom{17}{14}$

2) a)  $\binom{3+5-1}{5} = \binom{7}{5}$  b)  $\binom{3+5-1-3}{5-3} = \binom{4}{2}$  c)  $3 \cdot \binom{3+4-1}{4} = 3 \binom{6}{4}$

4)  $3M 2P 2K \frac{4!}{2!2!3!}$  3)  $x_i = 2k_i + 1$   $\frac{40-6}{2} = 17$   $\binom{6+17-1}{17} = \binom{22}{17}$  5)  $\frac{4!}{2!} \cdot 4 \cdot 3 \cdot 2 \cdot 1 = 288$

6)  $\frac{12!}{4!3!3!2!} = 277200$

7) a)  $6R, 6A, 8V$   
 $\binom{3+5-1}{5} = \binom{7}{5}$

b)  $\binom{3+4-1}{4} = \binom{6}{4}$

c)  $\binom{6}{4} \cdot \binom{5}{3}$