

Folha Semanal 6 /

19 92

$$1 \quad \binom{23}{2} - \binom{5}{2} - \binom{7}{2} - \binom{11}{2} = 167$$

$$2 \quad \begin{aligned} a) \quad & \binom{20}{2} = 190 \\ b) \quad & \binom{30}{2} - 15 = 420 \\ c) \quad & \text{Mulheres} \leftrightarrow \text{Mulheres} : 2 \times \binom{15}{2} = 210 \text{ beijos} \end{aligned}$$

$$\text{Homens} \leftrightarrow \text{Homens} : \binom{15}{2} = 105 \text{ apertos}$$

$$\text{Homens} \leftrightarrow \text{Mulheres} : 15 \times 15 = 225 \rightarrow \text{beijos e apertos}$$

Logo, 315 apertos de mão e 420 beijos

$$3 \quad \binom{5+6-1}{5} = \binom{10}{5} = \frac{10!}{(10-5)! 5!} = \frac{6 \times 5 \times 4 \times 3 \times 2}{5!}$$