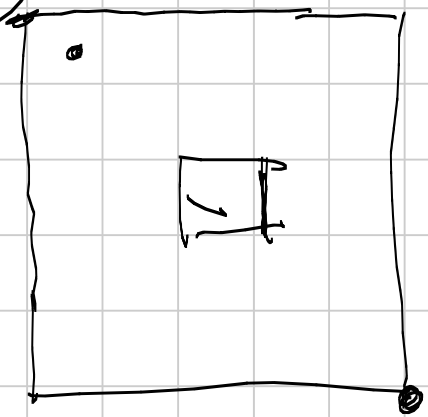
ES. 1, 3, 6, 10

$$\frac{4\cdot\binom{15}{5}}{\binom{20}{7}}$$

A



B

S S S S

E E E E

S S E E

S S S S E

E E E

$$\frac{8!}{4!\cdot 4!} =$$

S S E E

$$\binom{4}{2}\cdot\frac{6!}{3!\cdot 3!}$$

$$\frac{8!}{4!\cdot 4!} - \binom{4}{2}\cdot\frac{6!}{2!\cdot 3!}$$

incontri tra gli scarsi $= \binom{10}{2} = 45 = 90$ punti

$\rightarrow$ tot. punti fatti dagli scarsi $= 90 \times 2 = 180$ pt.

partite fatte dai forti vs scarsi $= 10n \rightarrow 20n$ pt.

pt. fatti dai forti contro gli scarsi $= 20n - 90$

$\rightarrow$ pt. tot. fatti dai forti $= (20n - 90) \times 2 = 40n - 180$

pt. totali $= 40n = \underbrace{\binom{n+10}{2} \times 2}_{\text{n. tot. di pt.}}$ $\qquad 40n = (n+10)(n+9)$

$n^2 + 19n + 90 = 40n \qquad n^2 - 21n + 90 = 0 \qquad n \begin{cases} 25 \\ 16 \leftarrow \text{NO.} \end{cases}$

$\binom{6}{2} \cdot 2 \cdot 2 = 60$ pt. $\qquad$ 10 p. di media x ogni squadra forte

punti tot. scarsi $= 180 \qquad$ media di ogni scarso $= \frac{180}{10} = 18$ pt

$$\frac{10 \cdot 9 \cdot \cancel{2}}{\cancel{2}} = 90$$

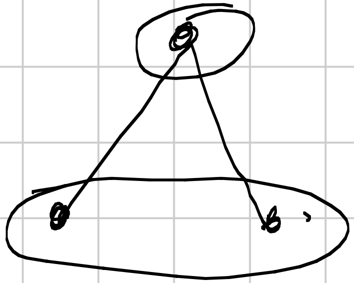
$p_i = 18$ punti

$m_i = 6 + 2 \cdot 4 + 14 = 28$ punti

$$18 \cdot 10 + 15 \cdot 28 = 600$$

$$\frac{25 \cdot 24}{2} \cdot 2 = 600$$

10



$$\cancel{12K}\,\frac{(3K+6)(3K+5)}{\cancel{2}} = \frac{\cancel{12K}(12K-1)}{\cancel{2}}\,N$$

$$N = \frac{(3K+6)(3K+5)}{12K-1}$$

$$N = \frac{9K^2+33K+30}{12K-1}$$

$$12K^2 + 44K + 40 = K(12K-1) + 45K + 40$$

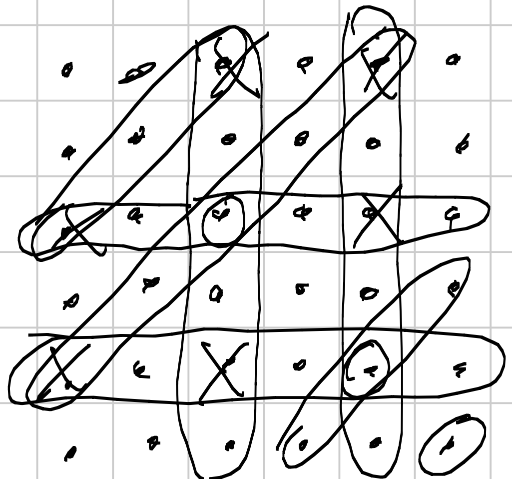
$$180K + 160 = 15(12K-1) + 175$$

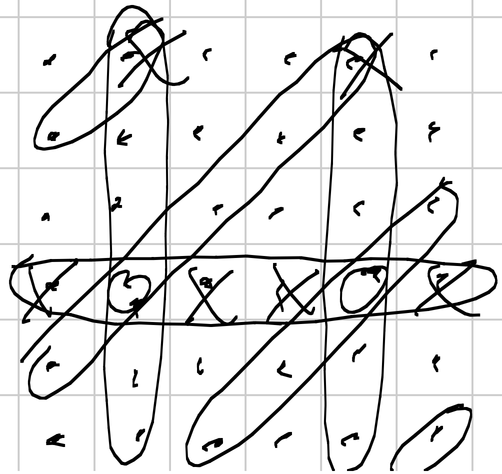
$$\frac{175}{12K-1}$$

$$175 = 5 \cdot 5 \cdot 7$$

$$12K - 1 = 35$$

$$K = 3$$





$$\binom{2n}{n} = \sum_{k=0}^{n} \binom{n}{k}\binom{n}{n-k}$$

$$\sum_{k=0}^{n} \binom{n}{k}\binom{n}{n-k}$$