Tarefa Básica - Combinações

1.

$$\frac{P_5 - A_{4,3}}{C_{4,2}} = \frac{5! - \frac{4!}{(4-3)!}}{\frac{4!}{(4-2)!\,2}} = \frac{120 - 24}{6} = \frac{96}{6} = 16$$

$$\frac{4!}{2!\,2!} = \frac{4 \cdot 3 \cdot \cancel{2!}}{\cancel{2!} \cdot 2!} = \frac{12}{2} = 6$$

2.

$\frac{8}{6} \cdot \frac{7}{5} \cdot \frac{6}{4} \cdot \frac{5}{3} \cdot \frac{4}{2} \cdot \frac{3}{1} - 7$ $\quad \frac{20.160}{720} = 28$ modos

3.

$^{2}\cancel{4} \cdot {}^{1}\cancel{3} \cdot 2 \cdot = 4$ $\quad \begin{cases} {}^{3}\cancel{6} \cdot 5 = 15 \\ \cancel{7} \cdot 1 \end{cases}$ $\quad 15.4 = 60$

$^{1}\cancel{3} \cdot \cancel{2} \cdot 1$

$C\ 4,{}^{1}3$ $\quad C\ 6,\cancel{2}$

4.

$\frac{n}{P!\,(n-P)!}$ $\quad \frac{5!}{3!\,(5-3)!} = \frac{5!}{3!\,2!} = \frac{5.4.\cancel{3!}}{\cancel{3!}\,2.1} = \frac{20}{2} = 10$

5.

^{3}~~6~~ · 5 = 15

2 . 1

C 6,2

^{3}~~4~~ . 3 = 6

~~2~~ , 1

C 4,2

3

15

×6

90

R: 90

6.

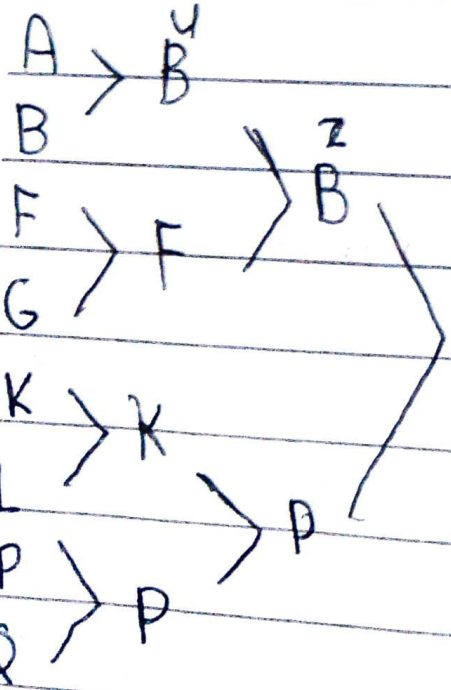
MAT	ING	GEO
$4.3.2 = 4$	$4.2.2 = 4$	$4.3.2 = 4$
$3.2.1$	$3.2.1$	$3.2.1$
C 4,3	C 4,3	C 4,3

$\rightarrow 4^3 = 64$

R: e)

7.

1º fase $C_{5,2} = \binom{5}{2} = \frac{5!}{2!3!} = 10$ ou $\frac{5^2.4^1.3}{2.1} = 10$



$4.10 = 40$ jogos

$40 + 7 = 47$ //

$4 + 2 + 1 = 7$

R: e)

8.

$C_{6,2}$ $C_{4,2}$ $C_{2,2}$

$15 \cdot 6 \cdot 5$ $15^{2} \cdot 3$ $15 \cdot 1$

$8 \cdot 1$ $8 \cdot 1$ $8 \cdot 1$

15 6 $1 = 90$ R: d)

9.

$$C(10,1) = \frac{10!}{1!(10-1)!} = \frac{10 \cdot 9!}{9!} = 10$$

$$C(10,2) = \frac{10!}{2!(10-2)!} = \frac{10!}{2!\,8!} = \frac{10 \cdot 9 \cdot 8!}{2 \cdot 1 \cdot 8!} = \frac{90}{2} = 45$$

$$C(10,3) = \frac{10!}{3!(10-3)!} = \frac{10!}{3!\,7!} = \frac{10 \cdot 9 \cdot 8 \cdot 7!}{3 \cdot 2 \cdot 1 \cdot 7!} = \frac{720}{6} = 120$$

$$10 + 45 + 120 = 175$$

$$^{2}175$$

$$\times 3$$

$$525$$

$\Rightarrow 525$ R. a)