Solution

The number of different signals, which can be given from the first flag, is

$$N_1 = C_6^1 \cdot P_1$$

Similarly the number of different signals, which can be given from the another flags, is

$$N_n = C_6^n \cdot P_n,$$

where n is a number of flag.

So a sum of different signals is

$$N = N_1 + \cdots N_6 = \sum_{n=1}^{6} C_6^n \cdot P_n = \frac{6!}{5! \cdot 1!} \cdot 1! + \frac{6!}{4! \cdot 2!} \cdot 2! + \frac{6!}{3! \cdot 3!} \cdot 3! + \frac{6!}{2! \cdot 4!} \cdot 4! + \frac{6!}{1! \cdot 5!} \cdot 5! +$$

$$+ \frac{6!}{0! \cdot 6!} \cdot 6! = 6 + 6 \cdot 5 + 6 \cdot 5 \cdot 4 + 6 \cdot 5 \cdot 4 \cdot 3 + 6! + 6! = 1956$$

Answer: b) 1956.