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V class 116

- 1) Berapa macam menu cemilan yang terdiri atas roti, Pisang, jus dan Soft drink yang dapat dipilih dari 3 jenis roti, 5 jenis Pisang, 8 jenis jus dan 6 Soft drink
- 2) Berapa banyak cara 7 orang dapat menginap dalam 1 kamar tripel dan 2 kamar double
- 3) Hitunglah nilai permutasi dan kombinasi berikut ini
 ${}_{20}P_2$ ${}_5P_3$ ${}_7C_5$ ${}_4C_2$

1)

$$n = 4$$

$$n_1 = 3$$

$$n_2 = 5$$

$$n_3 = 8$$

$$n_4 = 10$$

$$n_1 \times n_2 \times n_3 \times n_4$$

$$3 \times 5 \times 8 \times 10$$

1200 menu

2)

$$n = 7$$

$$n_1 = 3$$

$$n_2 = 2$$

$$n_3 = 2$$

$$= \frac{7!}{3! \times 2! \times 2!}$$

$$= \frac{7 \times \cancel{6} \times 5 \times \cancel{4} \times 3 \times 2 \times 1}{(3 \times \cancel{2} \times 1) \times (2 \times \cancel{1}) \times (2 \times \cancel{1})}$$

$$= 7 \times 5 \times 3 \times 2 \times 1$$

$$= \underline{\underline{210}} \text{ cara}$$

$$\begin{aligned}
 3) \cdot {}_{20}P_2 &= \frac{20!}{(20-2)!} \\
 &= \frac{20!}{18!} \\
 &= \frac{20 \times 19 \times 18}{18} \\
 &= \underline{\underline{380}}
 \end{aligned}$$

$$\begin{aligned}
 \bullet {}_5P_3 &= \frac{5!}{(5-3)!} \\
 &= \frac{5!}{2!} \\
 &= \frac{5 \times 4 \times 3 \times 2}{2} \\
 &= \underline{\underline{60}}
 \end{aligned}$$

$$\begin{aligned}
 \bullet {}_7C_5 &= \frac{7!}{5!(7-5)!} \\
 &= \frac{7!}{5! 2!} \\
 &= \frac{7 \times 6 \times 5}{2 \times 1} \\
 &= \underline{\underline{21}}
 \end{aligned}$$

$$\bullet \quad 4C_2 = \frac{4!}{2!(4-2)!}$$

$$= \frac{4!}{2! \cdot 2!}$$

$$= \frac{4 \times 3 \times 2}{2! \cdot 2!}$$

$$= \frac{12}{2}$$

$$= 6$$