

$6C_3$

$${}^6C_3 = \frac{6 \times 5 \times 4}{3 \times 2 \times 1}$$

$$\textcircled{6}C\textcircled{3} = \frac{\textcircled{6} \times 5 \times 4}{\textcircled{3} \times 2 \times 1}$$

} 3個

$${}^6C_3 = \frac{\cancel{6} \times 5 \times 4}{\cancel{3} \times 2 \times 1}$$

$${}^6C_3 = \frac{\cancel{6} \times 5 \times 4}{\cancel{3} \times 2 \times 1} = 5 \times 4$$

$${}^6C_3 = \frac{\cancel{6} \times 5 \times 4}{\cancel{3} \times 2 \times 1} = 5 \times 4$$
$$= 20 \quad \boxed{\text{答}}$$

組合せ C の計算例

$7C_2$

組合せ C の計算例

$${}^7C_2 = \frac{7 \times 6}{2 \times 1}$$

組合せ C の計算例

$${}^7C_2 = \frac{7 \times 6}{2 \times 1}$$

2個

組合せ C の計算例

$${}^7C_2 = \frac{7 \times 6}{2 \times 1}$$

組合せ C の計算例

$${}^7C_2 = \frac{7 \times \cancel{6}^3}{\cancel{2}^1 \times 1}$$

組合せ C の計算例

$${}^7C_2 = \frac{7 \times \cancel{6}^3}{\cancel{2}_1 \times 1} = 7 \times 3$$

組合せ C の計算例

$$\begin{aligned} {}_7C_2 &= \frac{7 \times \cancel{6}^3}{\cancel{2}_1 \times 1} = 7 \times 3 \\ &= 21 \quad \boxed{\text{答}} \end{aligned}$$

組合せ C の計算例

$${}_{11}C_5$$

組合せ C の計算例

$${}_{11}C_5 = \frac{11 \times 10 \times 9 \times 8 \times 7}{5 \times 4 \times 3 \times 2 \times 1}$$

組合せ C の計算例

$${}_{11}C_5 = \frac{11 \times 10 \times 9 \times 8 \times 7}{5 \times 4 \times 3 \times 2 \times 1}$$

5個

組合せ C の計算例

$${}_{11}C_5 = \frac{11 \times \cancel{10} \times 9 \times 8 \times 7}{\cancel{5} \times 4 \times 3 \times \cancel{2} \times 1}$$

組合せ C の計算例

$${}_{11}C_5 = \frac{11 \times \cancel{10} \times 9 \times \cancel{8} \times 7}{\cancel{5} \times \cancel{4} \times 3 \times \cancel{2} \times 1}$$

The image shows the calculation of the combination ${}_{11}C_5$. The numerator is $11 \times 10 \times 9 \times 8 \times 7$ and the denominator is $5 \times 4 \times 3 \times 2 \times 1$. Red diagonal lines are drawn through the 10, 5, 4, and 2 terms. Blue numbers are placed above and below the 8 and 4 terms: a blue '2' is above the 8, and a blue '1' is below the 4. This indicates that the 10 in the numerator is cancelled by the 5 in the denominator (leaving a factor of 2), and the 8 in the numerator is cancelled by the 4 in the denominator (leaving a factor of 2).

組合せ C の計算例

$${}_{11}C_5 = \frac{11 \times \cancel{10} \times \cancel{9}^3 \times \cancel{8}^2 \times 7}{\cancel{5} \times \cancel{4}^1 \times \cancel{3}^1 \times \cancel{2} \times 1}$$

組合せ C の計算例

$$\begin{aligned} {}_{11}C_5 &= \frac{11 \times \cancel{10} \times \cancel{9}^3 \times \cancel{8}^2 \times 7}{\cancel{5} \times \cancel{4}^1 \times \cancel{3}^1 \times \cancel{2} \times 1} \\ &= 11 \times 3 \times 2 \times 7 \end{aligned}$$

組合せ C の計算例

$$\begin{aligned} {}_{11}C_5 &= \frac{11 \times \cancel{10} \times \overset{3}{\cancel{9}} \times \overset{2}{\cancel{8}} \times 7}{\cancel{5} \times \underset{1}{\cancel{4}} \times \underset{1}{\cancel{3}} \times \cancel{2} \times 1} \\ &= 11 \times \overset{3}{3} \times \overset{2}{2} \times 7 \\ &= 462 \quad \boxed{\text{答}} \end{aligned}$$