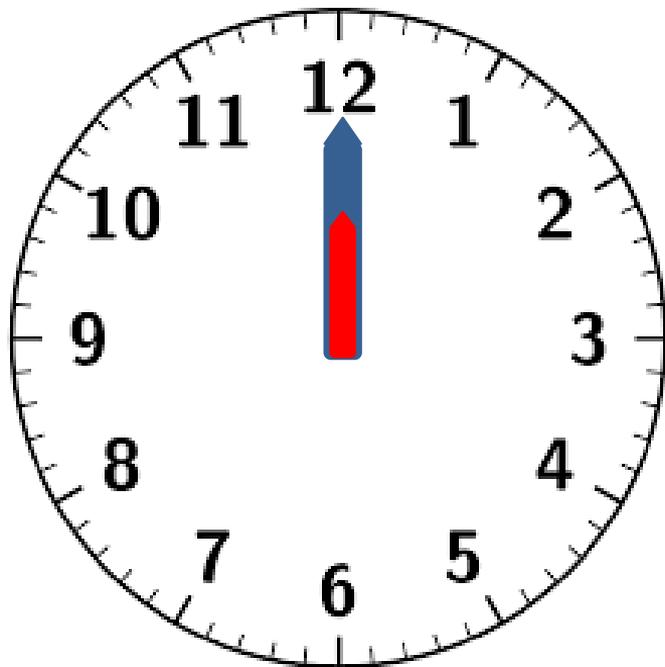
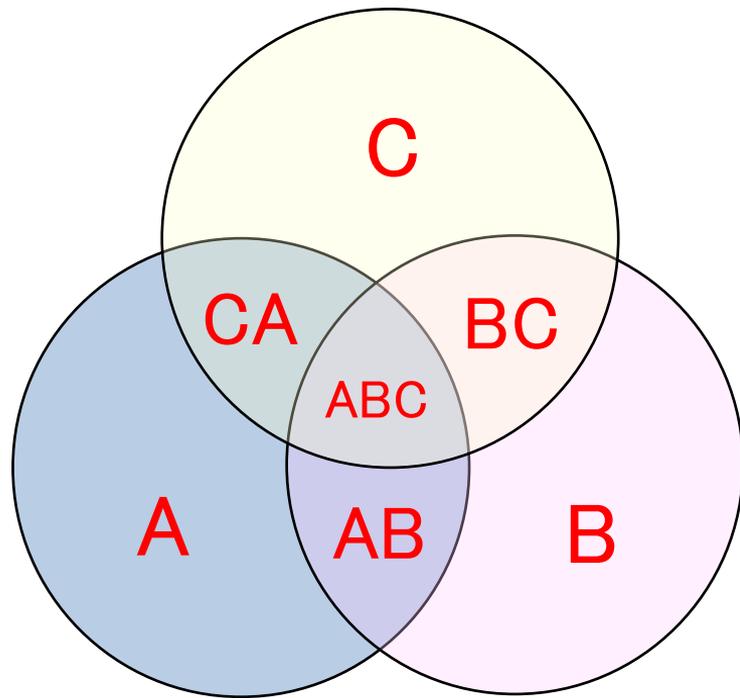
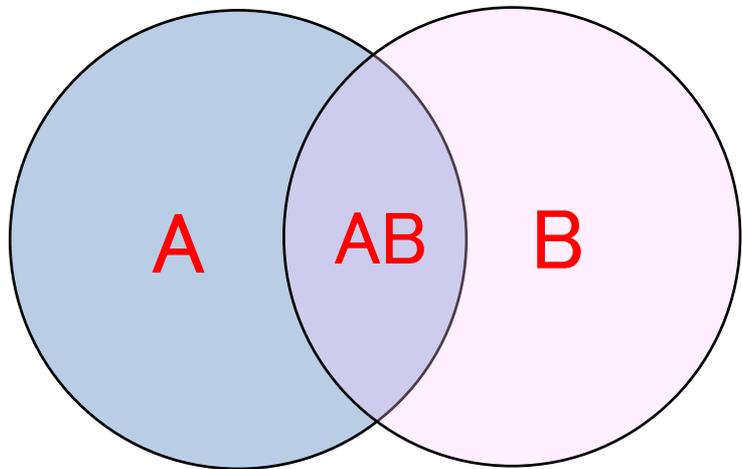


問1 1日に時計の長針と短針は何回重なるでしょうか？

1日は0 : 00 ~ 23 : 59、最初の0 : 00を1カウントとする



問2 2つ及び3つの場合のベン図を描きました。
4つの場合のベン図はどうなるでしょうか？



問3 以下の4式の計算結果はいくつでしょうか？

① $+++ = 20$

$-++ = 11$

$---+ = -9$

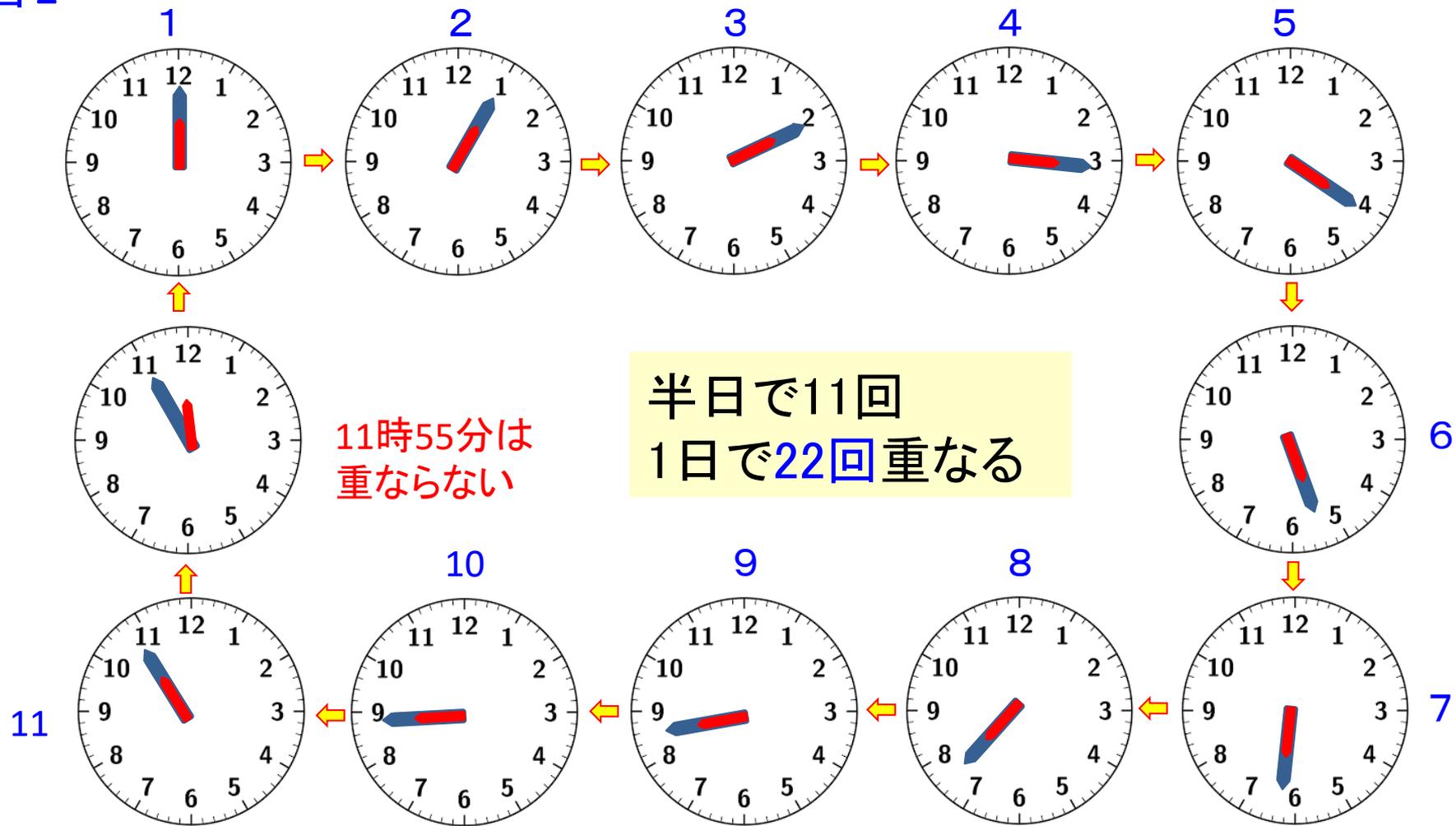
$--- = ?$

② $(x - a)(x - b)(x - c) \cdots (x - y)(x - z) = ?$

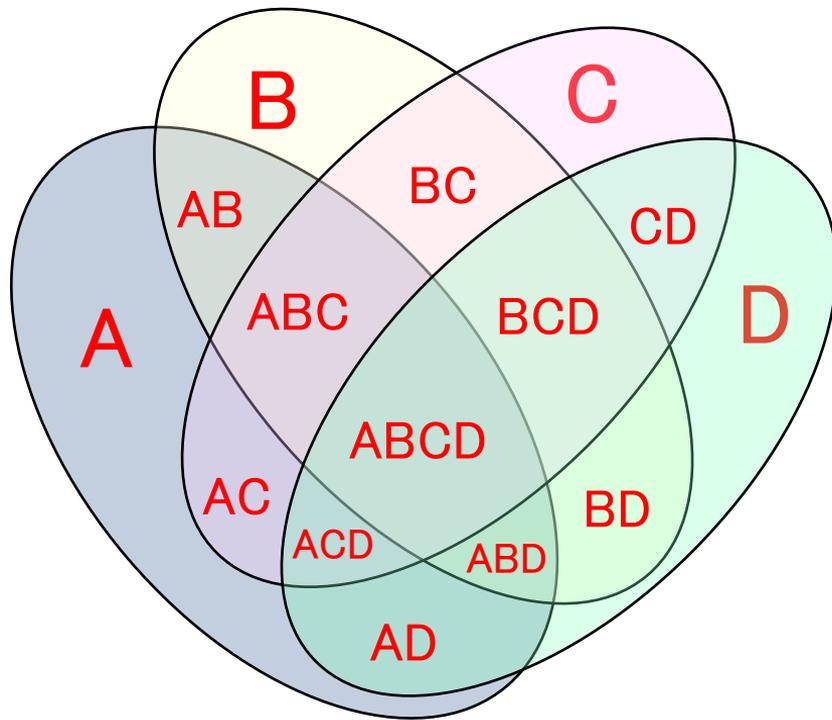
③ $\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{32} = ?$

④ $\left(1 - \frac{1}{2}\right) \left(1 - \frac{1}{3}\right) \left(1 - \frac{1}{4}\right) \cdots \left(1 - \frac{1}{99}\right) \left(1 - \frac{1}{100}\right) = ?$

解答1



解答2



解答 3

$$\begin{array}{ll}
 \textcircled{1} & +++ = 20 \qquad 10 + 10 = 20 \\
 & -++ = 11 \qquad 1 + 10 = 11 \\
 & --+ = -9 \qquad 1 - 10 = -9 \\
 & --- = ? \qquad 1 - 1 = 0
 \end{array}$$

$$\begin{array}{l}
 \textcircled{2} \quad (x - a)(x - b)(x - c) \cdots (x - y)(x - z) = ? \\
 \quad \rightarrow (x - a)(x - b)(x - c) \cdots (x - x)(x - y)(x - z) = 0
 \end{array}$$

$$\textcircled{3} \quad \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{32} = 1 - \frac{1}{32} = \frac{31}{32}$$

$$\begin{array}{l}
 \textcircled{4} \quad \left(1 - \frac{1}{2}\right) \left(1 - \frac{1}{3}\right) \left(1 - \frac{1}{4}\right) \cdots \left(1 - \frac{1}{99}\right) \left(1 - \frac{1}{100}\right) \\
 = \frac{1}{2} \cdot \frac{2}{3} \cdot \frac{3}{4} \cdots \frac{98}{99} \cdot \frac{99}{100} = \frac{1}{100}
 \end{array}$$

