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1) $A = \lfloor 600/3 \rfloor = 200$

$B = \lfloor 600/7 \rfloor = 85$

$(A \cap B) = \lfloor 600/21 \rfloor = 28$

a) Berapa banyak bilangan bulat yang habis dibagi 3 / 7

Jawab :

$$\begin{aligned} (A \cup B) &= |A| + |B| - |A \cap B| \\ &= 200 + 85 - 28 \\ &= 257 // \end{aligned}$$

b) Berapa banyak bilangan bulat yang tidak habis dibagi 3 & 7

Jawab :

$$\begin{aligned} (A \oplus B) &= |A| + |B| - 2|A \cap B| \\ &= 200 + 85 - 2(28) \\ &= 229 // \end{aligned}$$

2) $A = \lfloor 600/3 \rfloor - \lfloor 100/3 \rfloor = 167$

$B = \lfloor 600/7 \rfloor - \lfloor 100/7 \rfloor = 71$

$(A \cap B) = \lfloor 600/21 \rfloor - \lfloor 100/21 \rfloor = 24$

a) Berapa bilangan bulat yang habis 3 / 7?

Jawab :

$$\begin{aligned} (A \cup B) &= |A| + |B| - |A \cap B| \\ &= 167 + 71 - 24 \\ &= 214 // \end{aligned}$$

b) Berapa bilangan bulat yg tidak habis dibagi 3 / 7?

Jawab :

$$\begin{aligned} (A \oplus B) &= |A| + |B| - 2|A \cap B| \\ &= 167 + 71 - 48 \\ &= 190 \end{aligned}$$

$$\begin{aligned}3) |A| &= |950/3| - |500/3| = 150 \\ |B| &= |950/5| - |500/5| = 90 \\ |C| &= |950/7| - |500/7| = 84 \\ |A \cap B| &= |950/15| - |500/15| = 30 \\ |A \cap C| &= |950/21| - |500/21| = 22 \\ |B \cap C| &= |950/35| - |500/35| = 13 \\ |A \cap B \cap C| &= |950/105| - |500/105| = 5\end{aligned}$$

Derapa banyak bilangan yang tidak habis dibagi 3, 5, / 7 ?

Jawab :

$$\begin{aligned}|A \oplus B \oplus C| &= |A| + |B| + |C| - 2|A \cap B| - 2|A \cap C| - 2|B \cap C| + 2|A \cap B \cap C| \\ &= 150 + 90 + 84 - 60 - 44 - 26 + 10 \\ &= 164\end{aligned}$$