1.

$A = \{1, 2, 4, 8, 15, 31, 46\}$

$B = \{6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16$
$17, 18, 19, 20, 21, 22, 23, 24, 25\}$

$C = \{-3, 0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30\}$

$D = \{7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47\}$

Solucion

- $(B \cap C) = \{6, 9, 12, 15, 18, 21, 24\}$

$(A \oplus D) = \{1, 2, 4, 7, 8, 11, 13, 15, 17, 19, 23, 24,$
$37, 41, 43, 46, 47\}$

$(B \cap C) \cup (A \oplus D) = \{1, 2, 4, 6, 7, 8, 9, 11, 12, 13,$
$15, 17, 18, 19, 21, 23, 24, 37, 41, 43, 46, 47\}$

- $(B \oplus C) = \{-3, 0, 3, 7, 8, 10, 11, 13, 14, 16, 17,$
$19, 20, 22, 23, 25, 27, 30\}$

$(B - C) = \{7, 8, 10, 11, 13, 14, 16, 17, 19, 20, 22, 23, 25\}$

$(A \cup (B - C)) = \{1, 2, 4, 7, 8, 10, 11, 13, 14, 15, 16, 17, 19, 20,$
$22, 23, 25, 31, 46\}$

$(B \oplus C) \oplus (A \cup (B - C)) = \{-3, 0, 1, 2, 3, 4, 15, 27, 30, 31, 46\}$

•

$(C - B) = \{-3, 0, 3, 27, 30\}$

$(A \cap D) = \{31\}$

$((C - B) \oplus (A \cap D)) = \{-3, 0, 3, 27, 30, 31\}$

$(A \cup B \cup C) = \{-3, 0, 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15,$
$16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27,$
$30, 31, 46\}$

$((C - B) \oplus (A \cap D)) \cap (A \cup B \cup C) =$

$\{-3, 0, 3, 27, 30\}$

2. $(S, +, \cdot, ', 0, 2)$

$+ \rightarrow (x+y) \% 4$

$\cdot \rightarrow (x * y) / 4$

$x' = 2 - x$

Ley de idempotencia

- $x + x = x$

$(0+0) \% 4 = 0$ ✓

$(2+2) \% 4 = 0$ ✗ $0 \neq 2$

3.

3.

- Primera iteracion

$Senh(\pi/3) = \pi/3 = 1.047197551$

- Segunda iteracion

$Senh(\pi/3) = \pi/3 + \frac{(\pi/3)^3}{3!} = 1.238594321$

$Error_a = \left| \frac{1.238594321 - 1.047197551}{1.238594321} \right| = 15,45\%$

- Tercera iteracion

$Senh(\pi/3) = \pi/3 + \frac{(\pi/3)^3}{3!} + \frac{(\pi/3)^5}{5!} = 1,249088823$

$Error_a = 0,84\%$

- Cuarta iteracion

$Senh(\pi/3) = \pi/3 + \frac{(\pi/3)^3}{3!} + \frac{(\pi/3)^5}{5!} + \frac{(\pi/3)^7}{7!} = 1,2493628$

$Error_a = 0,021\%$ ✓