

1. a) 5.75

Isuel Contreras

$$\begin{array}{r|l} 2 & 5 \quad 1 \quad 0.75 \times 2 = 1.5 \quad 1 \\ & 2 \quad 0 \quad 0.5 \times 2 = 1 \quad 1 \\ & 1 \quad 1 \quad 0 \times 2 = 0 \quad 0 \end{array}$$

$$75 = \boxed{101.11}$$

b) $63/64 = 0.984375$

$$\begin{array}{r|l} 0.984375 \times 2 = 1.96875 & 1 \\ 0.96875 \times 2 = 1.9375 & 1 \\ 0.9375 \times 2 = 1.875 & 1 \\ 0.875 \times 2 = 1.75 & 1 \\ 0.75 \times 2 = 1.5 & 1 \\ 0.5 \times 2 = 1 & 1 \\ 0 \times 2 = 0 & 0 \end{array}$$

$$\boxed{0.111111}$$

c) 9.8125

$$\begin{array}{r|l} 2 & 9 \quad 1 \quad 0.8125 \times 2 = 1.625 \quad 1 \\ & 4 \quad 0 \quad 0.625 \times 2 = 1.25 \quad 1 \\ & 2 \quad 0 \quad 0.25 \times 2 = 0.50 \quad 0 \\ & 1 \quad 1 \quad 0.5 \times 2 = 1 \quad 1 \\ & & 0 \times 2 = 0 \quad 0 \end{array}$$

$$\boxed{1001.1101}$$

2) 34.890625

sign: + = 0

2	34	0	.890625	$\times 2$	1.78125	1
	17	1	.78125	$\times 2$	1.5625	1
	8	0	.5625	$\times 2$	1.125	1
	4	0	.125	$\times 2$	0.25	0
	2	0	.25	$\times 2$	0.5	0
	1	1	.5	$\times 2$	1	1

$$100010.111001 = 1.00010111001 \times 2^5$$

0 1 0 0 0 1 0 1 1 1 0 0 1

3) 0 1 1 1 1 1 0 1 1 1 [all zeros]

0 1 1 1 1 0 1 1

0 1 1 1 1 0 1 1 0 0 0