

$$\frac{2}{9}$$

$$(x_{\max})_{10} = (0.111111)_2 \cdot 2^5 = (11111.1)_2 = \dots$$

$$\dots = 1 \cdot 2^5 + 1 \cdot 2^4 + 1 \cdot 2^3 + 1 \cdot 2^2 + 1 \cdot 2^1 + 1 \cdot 2^0 + 1 \cdot 2^{-1} = \dots$$

$$\dots = (32 + 16 + 8 + 4 + 2 + 1 + 0.5)_{10} = \dots$$

$$\dots = \boxed{(63.5)_{10}}$$

$$(x_{\min})_{10} = (0.100000)_2 \cdot 2^{-4} = (0.00001)_2 = \dots$$

$$\dots = 1 \cdot 2^{-5}$$

$$= \boxed{(0.03125)_{10}}$$