2. $f(x) = \dfrac{x^{10} - 10^{x}}{x}$ $\quad x \in [-2, 2]$ $\quad \to r^-$ $\quad \to r^+$

$m = r_s^+ + 8$

$n = r_s^- + 8$

b) $r^+ = 1{,}3712886...$ $\qquad r^- = -0{,}8266714...$ $\qquad \boxed{\delta = 8}$

$\boxed{r_s^+ = 8}$ $\qquad \boxed{r_s^- = 7}$

Luego, $\boxed{m = 8 + 8 = 16}$ y $\boxed{n = 7 + 8 = 15}$

c) $s_1 e_1 e_2 \ldots e_{15} m_1 m_2 \ldots m_{16}$

$2^{15} = 32.768$

$2^{14} = 16.384$

$\therefore \; exp \in [-16.382, 16.383]$

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~~1. 0111...11~~

~~0111...11 00...001~~ $\underbrace{}_{15}$ $\underbrace{}_{16}$ → ~~El primer número no representable será el primero con el primer exponente superior al ...~~

~~65536~~

2. ε_{mach} corresponde a $2^{-m} \equiv 2^{-16}$

1. $\underbrace{011\dots1}_{15}\ \underbrace{00\dots0}_{16}$ → Este número está reservado para ∞. Este correspondería a

$2^{15} - 1 - bias$

$2^{15} - 1 - 16.383 = 16.384$

1. $\underbrace{011\dots1}_{15}\ \underbrace{00\dots0}_{16}$ → Este número está reservado para ∞. Este correspondería a

$2^{15} - 1 - bias$

$2^{15} - 1 - 16.383 = 16.384$

3. $\underbrace{0\,000\dots0}_{15}\ \underbrace{000\dots01}_{16} \equiv 0,0000000000000001$

4. Como se estableció antes, $exp \in [-16.382, 16.383]$

$[-2^{14}+2, 2^{14}-1]$

$k \mapsto \sum_{k=0} (2k) + \sum_{k=0} (2k+1)^{-2}$

d) $r^{+} = 1{,}37712886 + 2^{-16}$

$$\text{|||}$$

$$1{,}0101111100001101 + \underbrace{0{,}00\ldots01}_{16} = 1{,}\overbrace{010111110000111}^{15}\overbrace{0}^{1}$$

$\downarrow$

$$\boxed{0 \mid 000000000011101 \mid 0101111100001110}$$

$15 + bias_2 = 29$

14

$29/2 = 14$

$14 \to 7$

$7 \to 3$

$3 \to 1$