

M-5 Rješenje jednadžbe $4^{x-1} + 4^x - 16 \cdot 5^{x-2} = 0$ nalazi se u intervalu

- A . $\langle -1, 2 \rangle$ B . $\langle -2, 0 \rangle$ C . $\langle 2, 4 \rangle$ D . $\langle 4, 8 \rangle$ E . $\langle -3, -2 \rangle$

$$4^{x-1} + 4^x - 16 \cdot 5^{x-2} = 0$$

$$4^x \cdot 4^{-1} + 4^x = 16 \cdot 5^x \cdot 5^{-2} \rightarrow \frac{1}{25}$$

$$4^x \cdot \left(\frac{1}{4} + 1 \right) = \frac{16}{25} \cdot 5^x$$

$$4^x \cdot \frac{5}{4} = \frac{16}{25} \cdot 5^x / :5^x$$

$$\frac{4^x}{5^x} \cdot \frac{5}{4} = \frac{16}{25} / \cdot \frac{4}{5}$$

$$\left(\frac{4}{5} \right)^x = \frac{64}{125}$$

$$\left(\frac{4}{5} \right)^x = \left(\frac{4}{5} \right)^3$$

$$x = 3$$

Jedino interval $\langle 2, 4 \rangle$ sadrži naše rješenje $x = 3$

Dakle odgovor je C . $\langle 2, 4 \rangle$