

Atividade de potências

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$$① [(3^5)^2 \cdot 3^{5^2}] : (3^3)^2 = 3^a$$

$$[3^{10} \cdot 3^{10}] : 3^9 = 3$$

$$3^9 \cdot 3^{10} \cdot 3^{10} = 3^{29}$$

②

$$[2^9 : (2^2 \cdot 2)^3]^{-3}$$

$$[2^9 : (2^3)^3]^{-3}$$

$$[2^9 : 2^9]^{-3}$$

$$[1]^{-3} =$$

1

$$③ abx^2 = a = 1000, b = 100 \text{ e } 0,4$$

$$1000 \cdot 100^{0,4}$$

$$10^3 \cdot (10^3)^{0,4} =$$

$$10^3 \cdot 10^{0,8} = 10^{3,8}$$

$$④ \text{ A metade de } 4^{22}$$

$$4^{22} : 2 = (2^2)^{22} : 2 = 2^{44} : 2 = 2^{43}$$

$$⑤ \frac{(0,1) \cdot (0,001) \cdot (10^{-1})}{10 \cdot (0,001)} = \frac{10^{-1} \cdot 10^{-3} \cdot 10^{-1}}{10 \cdot 10^{-4}} = \frac{10^{-5}}{10^{-3}} =$$

$$10^{-5-(-3)} = 10^{-5+3} = 10^{-2}$$

⑥ $E^x \circ E^{x-2} = E^{x-(x-2)}$

$E^{x-x+2} = E^2$

⑦ $7^{5-y} = 243$, QUAL O VALOR DE 7^{-y}

$7^{5-y} = 243$

$(7^1)^8 = 3^8$

$7^1 = 3$

$7^{-y} = \left(\frac{1}{7}\right)^y = \frac{1^y}{7^y} = \frac{1}{3}$

243	3
81	3
27	3
9	3
3	3
1	3

⑧ Se $5^x = m$ e $5^y = n$

$(0,04)^{-x+2y}$

$0,04 = \frac{4}{100} = \frac{2^2}{10^2} = \left(\frac{2}{10}\right)^2$

$(5^{-2})^{-x+2y}$

$5^{2x-4y} = 5^{2x} \circ 5^{-4y}$

$(5^x)^2 : (5^y)^4 =$

$m^2 : n^{-4}$

$\left(\frac{1}{5}\right)^2 = 5^{-2}$

⑨ $(3^x)^y = 3^{xy}$ (FALSO) $(3^x)^y = 3^{xy}$

$(2^x \cdot 3^x)^2 = 2^{2x} \cdot 3^{2y}$ (VERDADEIRO)

$(2^x - 3^x)^y = 2^{xy} - 3^{xy}$ (FALSO)

$5^x + 3^y = 8^x$ (FALSO)

$3 \cdot 2^x = 6^x$ (FALSO) CORRETO É $3^x \cdot 2^x = 6^x$