

1. p027e04 - Resuelve las siguientes ecuaciones exponenciales:

(a) $10^{3-x} = 1$

Sol: [3]

(h) $4^{4x+3} = 2^{-x}$

Sol: $[-\frac{2}{3}]$

(b) $5^{x+3} = 125$

Sol: [0]

(i) $8^{x-1} = 4^{3x+1}$

Sol: $[-\frac{5}{3}]$

(c) $5^{1-x^2} = \frac{1}{125}$

Sol: [-2, 2]

(j) $5^{-x} = 0,04$

Sol: [2]

(d) $5^{x^2-5x+6} = 1$

Sol: [2, 3]

(k) $10^x \cdot 10^{-2x+7} = 100$

Sol: [5]

(e) $2^{1-x} = \frac{1}{8}$

Sol: [4]

(l) $(3^x)^2 \cdot 3^x = 9^3$

Sol: [2]

(f) $2^{x+3} = 4^{-x}$

Sol: [-1]

(m) $\sqrt{2 \cdot \sqrt{2 \cdot \sqrt{2}}} = 2^x$

Sol: $[\frac{7}{8}]$

(g) $9^{x-1} = 3^{x+1}$

Sol: [3]

2. p028e05 - Resuelve las siguientes ecuaciones exponenciales:

(a) $3^{x+1} + 3^x + 3^{x-1} = 117$

Sol: [3]

Sol: [1, 2]

(b) $3^x + 3^{x-1} + 3^{x-2} + 3^{x-3} + 3^{x-4} = 363$

Sol: [5]

(e) $2^{x+1} + 4^x = 80$

Sol: [3]

(c) $2^{3x} - \frac{3}{2^{3x+2}} + 1 = 0$

Sol: $[-\frac{1}{3}]$

(f) $2^{2x} - 3 \cdot 2^{x+1} + 8 = 0$

Sol: [1, 2]

(d) $3^{x-1} + 3^{2-x} = 4$

(g) $3^{2x-3} + 1 = 4 \cdot 3^{x-2}$

Sol: [1, 2]

(h) $2^{2x} - 10 \cdot 2^x + 16 = 0$

Sol: [1, 3]

(i) $16^x - 4^x = 240$

Sol: [2]

(j) $9^x - 6 \cdot 3^{x+1} + 81 = 0$

Sol: [2]

(k) $3^{x+2} + 9^{x+1} = 810$

Sol: [2]

(l) $5^{x-1} = 2 + \frac{3}{5^{x-2}}$

Sol: [2]

(m) $3^{x+1} + 3^{x-2} = \frac{15}{3^{x-1}} + \frac{247}{3^{x-2}}$

Sol: [3]

(n) $4^{2x} + 16 \cdot 4^{-2x} - 10 = 0$

Sol: $\left[\frac{\log(\sqrt{2})}{\log(4)}, \frac{\log(2\sqrt{2})}{\log(4)} \right]$

3. p028e06 - Resuelve los siguientes sistemas:

(a) $\begin{cases} 3^x = 3^y \\ 4^x \cdot 4^y = 256 \end{cases}$

Sol: $\{x : 2, y : 2\}$

(c) $\begin{cases} 5^x = 5^y \cdot 625 \\ 2^x \cdot 2^y = 256 \end{cases}$

Sol: $\{x : 6, y : 2\}$

(b) $\begin{cases} 2^{x+2y} = 32 \\ 2^{3x-5y} = 16 \end{cases}$

Sol: $\{x : 3, y : 1\}$

(d) $\begin{cases} 2^x + 2^y = 24 \\ 2^{x+y} = 128 \end{cases}$

Sol: $\{x : 3, y : 4\}, \{x : 4, y : 3\}$

4. p028e07 - Calcula:

(a) $\log 100$

Sol: 2

Sol: 4

Sol: 4

Sol: -1

(b) $\log_5(625)$

Sol: 4

(e) $\log_2(1024)$

Sol: 10

(h) $\log 1000000$

Sol: 6

(k) $\log 0,01$

Sol: -2

(c) $\log_2(32)$

Sol: 5

(f) $\log 1000$

Sol: 3

(i) $\log(10^6)$

Sol: 6

(l) $\log 0,001$

Sol: -3

(d) $\log_3(81)$

(g) $\log 10000$

(j) $\log 0,1$

(m) $\log 0,000001$

Sol: -6

(n) $\log_5(625)$

Sol: 4

(\tilde{n}) $\log_2(4)$

Sol: 2

(o) $\log_2(64)$

Sol: 6

5. p028e07b - Calcula (continuación):

(a) $\log_2(\frac{1}{2})$

Sol: -1**Sol:** $\frac{3}{2}$

(e) $\log_3(3)$

Sol: -1

(i) $\log_3(\frac{1}{9})$

Sol: 0

(m) $\log_{0,01}(10^{-3})$

(b) $\log_2(\frac{1}{4})$

Sol: -2**Sol:** 1

(f) $\log_3(27)$

Sol: -2

(j) $\log_3 \sqrt[3]{3}$

Sol: $\frac{3}{2}$

(n) $\log_{\frac{1}{49}}(7)$

(c) $\log_2(\sqrt{2})$

Sol: $\frac{1}{2}$ **Sol:** 3

(g) $\log_3(27)$

Sol: $\frac{1}{3}$

(k) $\log_{\frac{1}{3}}(81)$

Sol: $-\frac{1}{2}$

(\tilde{n}) $\log_{\frac{1}{5}}(\frac{1}{25})^{\frac{1}{5}}$

(d) $\log_2(\sqrt{8})$

Sol: 3

(h) $\log_3(\frac{1}{3})$

Sol: -4

(l) $\log_{0,8}(1)$

Sol: $\sqrt[5]{2}$