Sistemi di equazioni esponenziali

1	$\begin{cases} 4^{xy} - 9 \cdot 2^{xy} + 8 = 0 \\ 3^{x+y} \cdot 9^{x-y} = 1 \end{cases}$	$x = 0,\ y = 0;\ x = 1,\ y = 3;\ x = -1,\ y = -3$
2	$\begin{cases} x - y = 2 \\ 3^{xy} = 1 \end{cases}$	$x = 0,\ y = -2;\ x = 2,\ y = 0$
3	$\begin{cases} 3^x \cdot 9^y = 3 \\ x - y = -5 \end{cases}$	$x = -3,\ y = 2$
4	$\begin{cases} 3x - 2y = 8 \\ 3^{5x+6y} = 81 \end{cases}$	$x = 2,\ y = -1$
5	$\begin{cases} x^2 + y^2 = 17 \\ \left(2^{\frac{1}{x}}\right)^y = 16 \end{cases}$	$x = -1,\ y = -4;\ x = 1,\ y = 4$
6	$\begin{cases} \sqrt{3^x} \cdot \sqrt[3]{3^y} = \dfrac{1}{\sqrt[3]{9}} \\ x^2 + y^2 = 5 \end{cases}$	$x = -2,\ y = 1;\ x = \frac{2}{13},\ y = -\frac{29}{13}$
7	$\begin{cases} x^{y-3} = 1 \\ y^{x-2} = y \end{cases}$	$x = 3,\ y = 3;\ x = 1,\ y = 1$
8	$\begin{cases} x^2 + xy + y^2 = 3a^2 + 1 \\ b^x b^y = b^{2a} \end{cases}$	$x = a + 1,\ y = a - 1;\ x = a - 1,\ y = a + 1$
9	$\begin{cases} a^{x+y} \cdot (a^x)^y = a^5 \\ \left(a^{x^2}\right)^y = a^{6-xy^2} \end{cases}$	$x = 2,\ y = 1;\ x = 1,\ y = 2$
10	$\begin{cases} x^y = 125 \\ x^{2-y} = \dfrac{1}{5} \end{cases}$	$x = 5,\ y = 3$
11	$\begin{cases} x^y = y^x \\ x = 2y \end{cases}$	$x = 4,\ y = 2\ ;\ x = 0,\ y = 0$
12	$\begin{cases} a^x \cdot a^y = a^5 \\ a^{x^2-y^2} = a^5 \end{cases}$	$x = 3,\ y = 2$
13	$\begin{cases} 3^x \cdot 5^y = 75 \\ 3^y \cdot 5^x = 45 \end{cases}$	$x = 1,\ y = 2$
14	$\begin{cases} y^x = 64 \\ y^{x+1} = 4y^{x-1} \end{cases}$	$x = 6,\ y = 2;\ x = 6,\ y = -2$
15	$\begin{cases} a^x \cdot a^{2y} = a^6 \\ x - 3y = 1 \end{cases}$	$x = 4,\ y = 1;$
16	$\begin{cases} a^{x+y} \cdot a^{xy} = a^5 \\ (a^{x+y})^{xy} = a^6 \end{cases}$	$x = 2,\ y = 1;\ x = 1,\ y = 2$
17	$\begin{cases} \sqrt{a^x} \cdot \sqrt[3]{a^y} = a^5 \\ \sqrt[3]{b^x} \cdot \sqrt{b^y} = b^5 \end{cases}$	$x = 6,\ y = 6$
18	$\begin{cases} a^{7xy} = a^x \cdot a^y \\ a^{8xz} = a^x \cdot a^z \\ a^{9xy} = a : a^y \end{cases}$	$x = \frac{1}{3},\ y = \frac{1}{4}, z = \frac{1}{5}\ ;\ x = 0,\ y = 0, z = 0$

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19	$\begin{cases} y^{x^2-7x+12} = 1 \\ x + y = 6 \end{cases}$	$x = 3,\ y = 3;\quad x = 4,\ y = 2$
20	$\begin{cases} \sqrt[3]{a^x} = \sqrt[4]{a^y} \\ \sqrt{b^x} \cdot \sqrt[4]{b^y} = b^5 \end{cases}$	$x = 6,\ y = 8$
21	$\begin{cases} \sqrt[5x]{a^2} : \sqrt[2y]{a^3} = \sqrt[10]{a^{-3}} \\ \sqrt[2x]{a^5} \cdot \sqrt[2y]{a^3} = \sqrt[4]{a^7} \end{cases}$	$x = 2,\ y = 3$
22	$\begin{cases} x^y = 16 \\ \dfrac{x}{y} = 2 \end{cases}$	$x = 4,\ y = 2$
23	$\begin{cases} \sqrt[3]{a^x} \cdot \sqrt[4]{a^y} = \sqrt[6]{a^5} \\ \sqrt[4]{b^x} \cdot \sqrt[5]{b^y} = \sqrt[20]{b^{13}} \end{cases}$	$x = 1,\ y = 2$
24	$\begin{cases} x^y = y^x \\ \dfrac{x}{y} = \dfrac{5}{3} \end{cases}$	$x = \dfrac{25}{9}\sqrt{\dfrac{5}{3}},\ y = \dfrac{5}{3}\sqrt{\dfrac{5}{3}}$
25	$\begin{cases} \sqrt[2x]{a^2} \cdot \sqrt[3y]{a^5} = \sqrt[6]{a^{13}} \\ \sqrt[3x]{a^2} \cdot \sqrt[5y]{a^3} = \sqrt[15]{a^{14}} \end{cases}$	$x = 2,\ y = 1$
26	$\begin{cases} 5^{4x} \cdot 125^y = 125 \\ 2 \cdot 2^{6x} = 16^{3y} \end{cases}$	$x = \dfrac{1}{2},\ y = \dfrac{1}{3}$
27	$\begin{cases} a^x \cdot a^{5y} = a^{28} \\ a^{7x} : a^6 = a^{3y} \end{cases}$	$x = 3,\ y = 5$
28	$\begin{cases} 3^{x-2} + 9^{y-3} = \dfrac{82}{9} \\ x - 2y = 0 \end{cases}$	$x = 4,\ y = 2$
29	$\begin{cases} 4^{3x-4} + 8^{2y-4} = 80 \\ y - x = 1 \end{cases}$	$x = 2,\ y = 3$
30	$\begin{cases} 27^{3-x} + 9^{3y-2} = 36 \\ x - y = 1 \end{cases}$	$x = 2,\ y = 1$
31	$\begin{cases} x + y = 3 \\ 3^{xy} = 9 \end{cases}$	$x = 1,\ y = 2;\ x = 2,\ y = 1$
32	$\begin{cases} 2^{x+y-1} = 16 \\ x^2 + y^2 = 17 \end{cases}$	$x = 1,\ y = 4;\ x = 4,\ y = 1$
33	$\begin{cases} x^2 + y^2 = \dfrac{13}{36} \\ 2^{x+y} = \sqrt[6]{32} \end{cases}$	$x = \dfrac{1}{2},\ y = \dfrac{1}{3};\ x = \dfrac{1}{3},\ y = \dfrac{1}{2}$
34	$\begin{cases} \sqrt[3]{a^x} : \sqrt[7]{a^{2y}} = a^{-2} \\ \sqrt[4]{a^x} : \sqrt[3]{a^{2y}} = a^{-11} \end{cases}$	$x = 12,\ y = 21$
35	$\begin{cases} \sqrt[x]{a} : \sqrt[y]{a^{-1}} = a^{\frac{7}{12}} \\ \sqrt[x]{a^3} : \sqrt[y]{a^4} = 1 \end{cases}$	$x = 3,\ y = 4$

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36	$\begin{cases} \sqrt[x+1]{a^3} : a^{-2-y} = a^7 \sqrt[4]{a^{-1}} \\ \sqrt[x+1]{a^7} : \sqrt{a^{y-5}} = a^2 \sqrt[4]{a} \end{cases}$	$x = 3,\ y = 4$
37	$\begin{cases} a^{2x} \cdot a^{3y} = a^{19} \\ (a^x)^{y+1} = a^{12} \end{cases}$	$x = 2,\ y = 5;\ x = 9,\ y = \frac{1}{3}$
38	$\begin{cases} y^x = 64 \\ \sqrt[x-1]{y^{x+1}} = 16 \end{cases}$	$x = 3,\ y = 4;\ x = -\frac{1}{2},\ y = 2^{-12}$
39	$\begin{cases} \sqrt[3]{a^x} : \sqrt[7]{a^{2y}} = a^{-2} \\ \sqrt[4]{a^x} : \sqrt[3]{a^{2y}} = a^{-11} \end{cases}$	$x = 12,\ y = 21$
40	$\begin{cases} \sqrt[x]{a} : \sqrt[y]{a^{-1}} = a^{\frac{7}{12}} \\ \sqrt[x]{a^3} : \sqrt[y]{a^4} = 1 \end{cases}$	$x = 3,\ y = 4$
41	$\begin{cases} \sqrt[x+1]{a^3} : a^{-2-y} = a^7 \sqrt[4]{a^{-1}} \\ \sqrt[x+1]{a^7} : \sqrt{a^{y-5}} = a^2 \sqrt[4]{a^3} \end{cases}$	$x = 3,\ y = 4$
42	$\begin{cases} a^{2x} \cdot a^{3y} = a^{19} \\ (a^x)^{y+1} = a^{12} \end{cases}$	$x = 2,\ y = 5;\ x = 9,\ y = \frac{1}{3}$
43	$\begin{cases} y^x = 64 \\ \sqrt[x-1]{y^{x+1}} = 16 \end{cases}$	$x = 3,\ y = 4;\ x = -\frac{1}{2},\ y = 2^{-12}$
44	$\begin{cases} x^y = 16 \\ \frac{x}{y} = 2 \end{cases}$	$x = 4,\ y = 2$