

120	$\log_3 24 = \log_3 (2^3 \cdot 3) = \log_3 2^3 + \log_3 3 = 3 \log_3 2 + \log_3 3 = 3 \cdot 0,63 + 1 =$ $= 1,89 + 1 = 2,89$
121	$\log_4 128 \quad 4^x = 128 \quad 2^{2x} = 128 \quad 2^{2x} = 2^7 \quad x = \frac{7}{2}$
122	<p>a) <math>2 \log_4 16 + \log_2 32 - 3 \log_7 49 = 2 \cdot 2 + 5 - 3 \cdot 2 = 3</math></p> <p>b) <math>\log_2 8 + \log_3 27 + \log_5 125 = 3 + 3 + 3 = 9</math></p> <p>c) <math>\log_5 625 - \log_9 81 + \log_8 64 = 4 - 2 + 2 = 4</math></p>
123	<p>a) <math>\log_3 \frac{a^2 \cdot b^5 \cdot c}{d^2} = \log_3 (a^2 \cdot b^5 \cdot c) - \log_3 d^2 =</math></p> $= \log_3 a^2 + \log_3 b^5 + \log_3 c - \log_3 d^2 =$ $= 2 \log_3 a + 5 \log_3 b + \log_3 c - 2 \log_3 d$
	<p>b) <math>3 \log_2 a + \frac{6}{5} \log_2 b + \frac{7}{3} \log_2 c</math></p>
	<p>c) <math>\log_{10} x + \frac{1}{2} \log_{10} x - \frac{2}{5} \log_{10} y - \frac{3}{5} \log_{10} z</math></p>
124	<p>a) <math>\log_5 36^2 = 2 \log_5 36 = 2 \cdot \frac{\log 36}{\log 5} = 4,4531</math></p> <p>b) <math>\log_2 \sqrt{31} = \frac{1}{2} \log_2 31 = \frac{1}{2} \cdot \frac{\log 31}{\log 2} = 2,4771</math></p> <p>c) <math>\log_6 100 = \log_6 10^2 = 2 \cdot \frac{\log 10}{\log 6} = 2,5701</math></p> <p>d) <math>\log_4 31^5 = 5 \log_4 31 = 5 \cdot \frac{\log 31}{\log 4} = 12,3855</math></p>
125	$\ln 10 = \frac{\log 10}{\log e} = \frac{1}{0,4343} = 2,3025 \quad \ln 0,1 = \frac{\log 0,1}{\log e} = \frac{-1}{0,4343} = -2,3025$
126	<p>a) <math>\log 1.250 = \log \frac{10.000}{8} = \log 10.000 - \log 2^3 = 4 - 3 \cdot 0,3010 = 3,097</math></p> <p>b) <math>\log 0,125 = \log \frac{1}{8} = \log 1 - \log 2^3 = 0 - 3 \cdot 0,3010 = 0,903</math></p> <p>c) <math>\log 5 = \log \frac{10}{2} = \log 10 - \log 2 = 1 - 0,3010 = 0,6990</math></p> <p>d) <math>\log 0,04 = \log \frac{2^2}{100} = 2 \log 2 - 2 \log 10 = 2 \cdot 0,3010 - 2 = -1,398</math></p>
127	<p>a) <math>\log_3 x = 5 \rightarrow 3^5 = x \rightarrow x = 243</math></p> <p>b) <math>\log_5 x = 3 \rightarrow 5^3 = x \rightarrow x = 125</math></p> <p>c) <math>\log_2 x = -1 \rightarrow 2^{-1} = x \rightarrow x = 0,5</math></p>

128	a) $\log_x 3 = -1 \rightarrow x^{-1} = 3 \rightarrow x = \frac{1}{3}$ b) $\log_x 5 = 2 \rightarrow x^2 = 5 \rightarrow x = \sqrt{5}$ c) $\log_x 3 = -2 \rightarrow x^{-2} = 3 \rightarrow x^2 = \frac{1}{3} \rightarrow x = \sqrt{\frac{1}{3}}$	
129	a) $\log_3 9^x = 2$ b) $\log 2^x = \frac{3}{2}$	c) $\ln 3^x = -1$ d) $\log_2 4^{x+4} = -2$
130	a) $8^x = 1.024$ b) $3^{x^2} = 27$	c) $3^{x^2-6} = 27$ d) $10^{x-1} = 10^3$