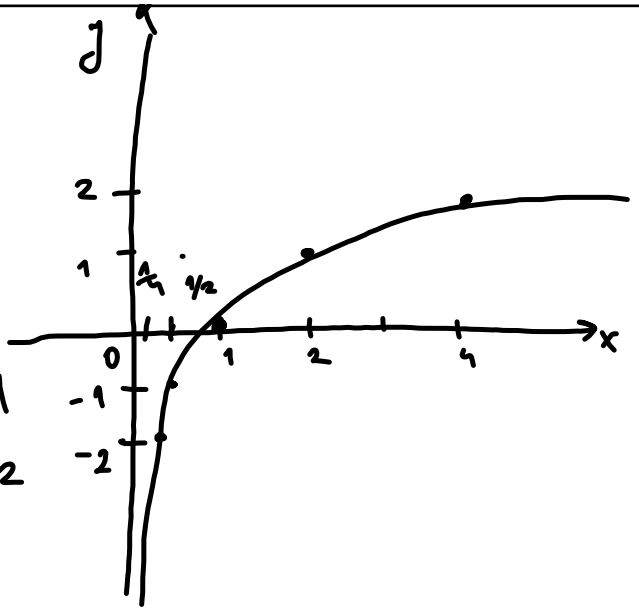
Primer 1 $y = \log_2 x$

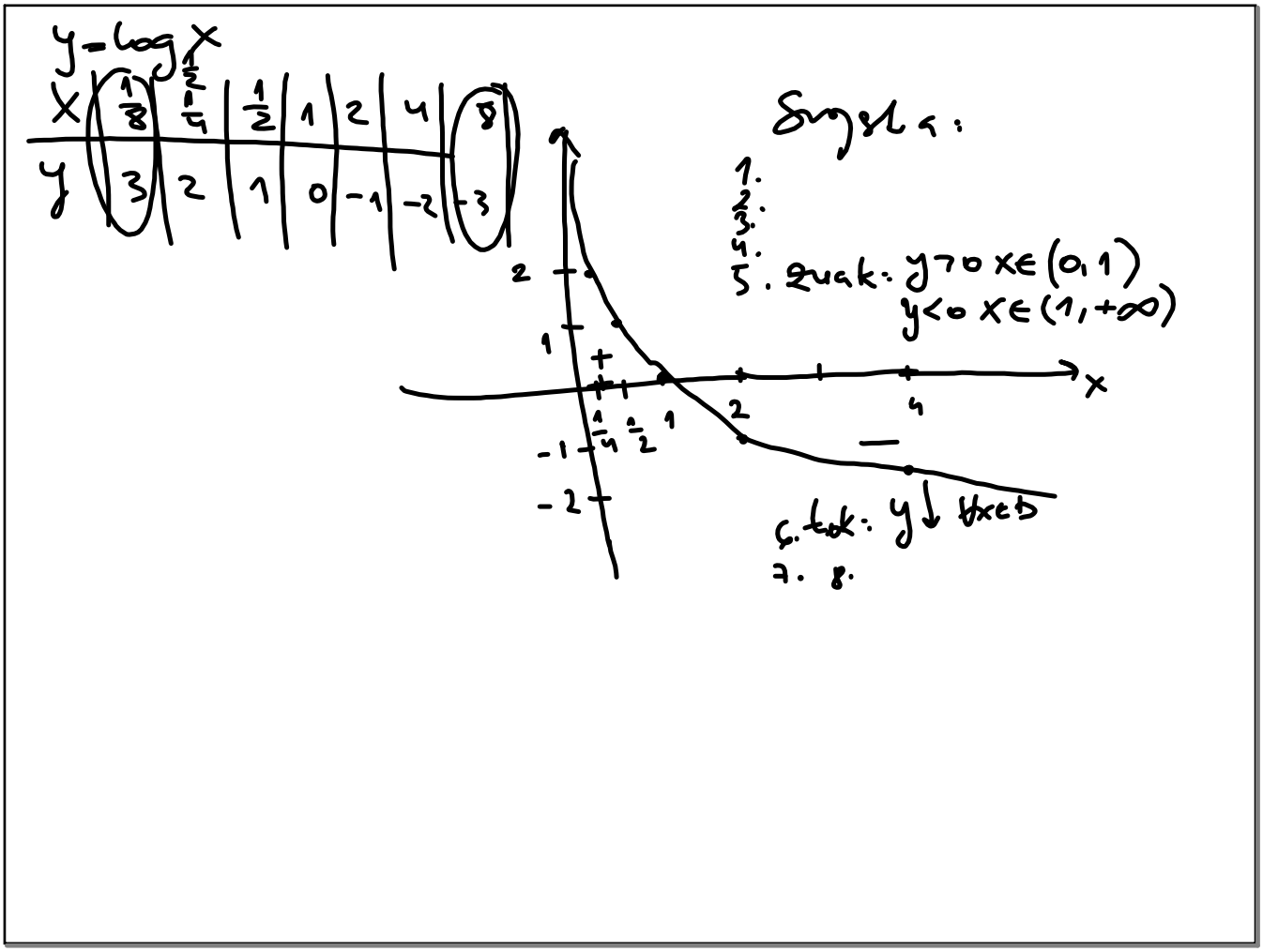
x	$\frac{1}{4}$	$\frac{1}{2}$	1	2	4
y	-2	-1	0	1	2

$y = \log_2 \frac{1}{4} = -2$ $y = \log_2 2 = 1$

$y = \log_2 \frac{1}{2} = -1$ $y = \log_2 4 = 2$

$y = \log_2 1 = 0$




y = log x
x | 1/8 | 1/4 | 1/2 | 1 | 2 | 4 | 8
y | 3 | 2 | 1 | 0 | -1 | -2 | -3
Svojstva:
1.
2.
3.
4.
5. znak: y > 0 x ∈ (0,1)
y < 0 x ∈ (1,+∞)
6. tok: y ↓ stalno
7. 8.
x
2
1
-1
-2
1/4
1/2
1
2
4

$y = \log_{\frac{1}{3}} x \qquad y = \log_3 x$

x	$\frac{1}{9}$	$\frac{1}{3}$	1	3	9
y	2	1	0	-1	-2

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1. a) $\log_2 16 = 4$

b) $\log_{\frac{1}{3}} \frac{1}{9} = 2$

c) $\log_{\frac{1}{2}} 8 = -3$

d) $\log_3 \sqrt[5]{81} = \log_3 81^{\frac{1}{5}} = \frac{1}{5}\log_3 81 = \frac{1}{5}\cdot 4 = \frac{4}{5}$

e) $\log_{\frac{7}{9}} \sqrt{\frac{81}{49}} = \log_{\frac{7}{9}} \frac{9}{7} = -1$

2. a) $\log_{10} 4 + \log_{10} 25 = \log_{10} 4 \cdot 25 = \log_{10} 100 = 2$

$\log x + \log y = \log x \cdot y$

b) $\log 250 - \log 25$ - domaći

c) $\log_{\frac{1}{3}} 54 - \log_{\frac{1}{3}} 2 = \log_{\frac{1}{3}} \frac{54}{2} = \log_{\frac{1}{3}} 27 = -3$

d) $2 \cdot \log_6 2 + \log_6 9 = \log_6 2^2 + \log_6 9 = \log_6 4 + \log_6 9 =$

$\log x^k = k \cdot \log x$ $= \log_6 4 \cdot 9 = \log_6 36 = 2$

e) $\log_9 \frac{151}{343} + 2 \cdot \log_9 \sqrt{\frac{343}{151}}$ - domaći

f) $\log_2 27 - 2 \log_2 3 + \log_2 \frac{2}{3}$ - domaći