

1. a. $2x = 512 \iff 2x = 29$ $\iff x = 9$ $S = \{9\}$
- b. $5\log x - 2 \cdot 5\log 3 = 2 \iff$
 $5\log x = 5\log 25 + 5\log 9 \iff$
 $5\log x = 5\log 225 \iff$
 $x = 225$ $S = \{225\}$
- c. $6\log x + 6\log(x-1) = 1$ $v.w.: x > 1$
 $\iff 6\log x(x-1) = 6\log 6$
 $\iff x(x-1) = 6$
 $\iff (x-3) \cdot (x+2) = 0$
 $\iff x = 3$ $S = \{3\}$
- d. $3\log(2x-4) < 2$ $v.w.: x > 2$
 $\iff 3\log(2x-4) < 3\log 9$
 $\iff 2x-4 < 9$
 $\iff x < 6,5$ $S = \langle 2; 6,5 \rangle$
- e. $\log x \geq 10$ $v.w.: x > 0$
 $\iff \log x \geq \log 1010$
 $\iff x \geq 1010$ $S = [1010, \infty)$
- f. $0,5x < 8$
 $\iff 0,5x < (0,5) - 3$
 $\iff x > -3$ $S = \langle -3, \infty \rangle$
2. a. $32x = 64 \iff 25x = 26$ \iff
 $5x = 6$ \iff
 $x = 1,2$ $S = \{1,2\}$
- b. $2\log x \cdot 5\log 2 = 2$ \iff
 $2\log 2$
 $2\log x \cdot \frac{2\log 2}{2\log 5} = 2$ \iff
 $2\log x = 2 \cdot 2\log 5$ \iff
 $x = 25$ $S = \{25\}$
- c. $6\log x + 6\log(x-1) = 1$ $v.w.: x > 1$
 $\iff 6\log x(x-1) = 6\log 6$
 $\iff x(x-1) = 6$
 $\iff (x-3) \cdot (x+2) = 0$
 $\iff x = 3$ $S = \{3\}$
- d. $5\log x < -1$ $v.w.: x > 0$
 $\iff 5\log x < 5\log 1/5$
 $\iff 0 < x < 1/5$ $S = \langle 0; 0,2 \rangle$
- e. $4\log x^2 = 2$ $v.w.: x \text{ niet } 0$
 $\iff x^2 = 16$
 $\iff x = 4 \text{ of } x = -4$ $S = \{4, -4\}$
- f. $0,5x < 0,25$
 $\iff 0,5x < (0,5) \cdot 2$
 $\iff x > 2$ $S = \langle 2, \infty \rangle$