

1. a.  $x = 5 \log 6$   
 $\underline{x = 1,113}$

b.  $3x = 6$   
 $x = 3 \log 6$   
 $\underline{x = 1,631}$

c.  $x \log 7 = 4$   
 $x^4 = 7$   
 $\underline{x = 1,627}$

d.  $20 \cdot (1,4) x = 300$   
 $(1,4) x = 15$   
 $x = 1,4 \log 15$   
 $\underline{x = 8,048}$

e.  $22 \cdot (1,6) x = 300 \cdot (1,2) x$   
 $1,6 x = 300$   
 $(\frac{---}{---}) = \frac{---}{---}$   
 $1,2 = 22$   
 $\underline{x = 9,082}$

2. a.  $\log 3 + \log x = \log 12$   
 $\log 3x = \log 12$   
 $\underline{x = 4}$

b.  $5 \log 250 - 5 \log x = 2$   
 $5 \log \frac{250}{x} = \log 25$   
 $\underline{x = 10}$

c.  $\log 3x + \log (x-2) = \log 9$   
 $\log 3x(x-2) = \log 9$   
 $3x(x-2) = 9$   
 $x^2 - 2x - 3 = 0$   
 $\underline{x = 3}$  ( x = -1 verworfen )

d.  $4x + 4 \log 3 = 3$   
 $4x + 4 \log 3 = 44 \log 3$   
 $\underline{x = 0}$

e.  $2 \log 5 \cdot \log x \cdot \log 3 \cdot \log 4 = 2$

$2 \log 5 \cdot \frac{\log x}{2 \log 5} \cdot \frac{\log 3}{2 \log 7} \cdot \frac{\log 4}{2 \log 3} = 2$

$\underline{x = 7}$