

$$f(x) = b \cdot a^x$$

|        |                         |                       |     |             |               |               |
|--------|-------------------------|-----------------------|-----|-------------|---------------|---------------|
| $x$    | -2                      | -1                    | 0   | 1           | 2             | 3             |
| $f(x)$ | $\frac{1}{a^2} \cdot b$ | $\frac{1}{a} \cdot b$ | $b$ | $a \cdot b$ | $a^2 \cdot b$ | $a^3 \cdot b$ |

$f(0) = b \cdot a^0 = b \cdot 1 = b$

Diagram annotations: Blue arrows labeled '+1' show the step from  $x=0$  to  $x=1$ ,  $x=1$  to  $x=2$ , and  $x=2$  to  $x=3$ . Yellow arrows labeled '+2' show the step from  $x=0$  to  $x=2$  and  $x=1$  to  $x=3$ . Red arrows labeled ' $\cdot a$ ' show the step from  $f(0)$  to  $f(1)$ ,  $f(1)$  to  $f(2)$ , and  $f(2)$  to  $f(3)$ . Yellow arrows labeled ' $\cdot a^2$ ' show the step from  $f(0)$  to  $f(2)$  and  $f(1)$  to  $f(3)$ .

"alle 15 Sekunden 9% Abnahme"

|         |     |    |    |    |                  |
|---------|-----|----|----|----|------------------|
| $t [s]$ | 0   | 15 | 30 | 45 | 60               |
| Höhe    | $b$ |    |    |    | $0,91^4 \cdot b$ |

Diagram annotations: Yellow arrows labeled '+15' show the time intervals between 0-15, 15-30, 30-45, and 45-60. A yellow arrow labeled ' $\cdot 0,91$ ' shows the decay factor from  $t=0$  to  $t=15$ .

$$0,91^4 = 0,68574961$$

$$\approx 68,6\%$$

Die Säule hat sich um 31,4% verringert.