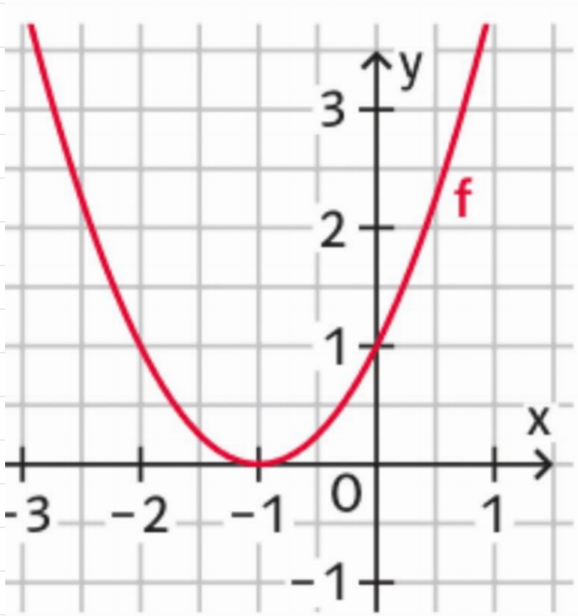
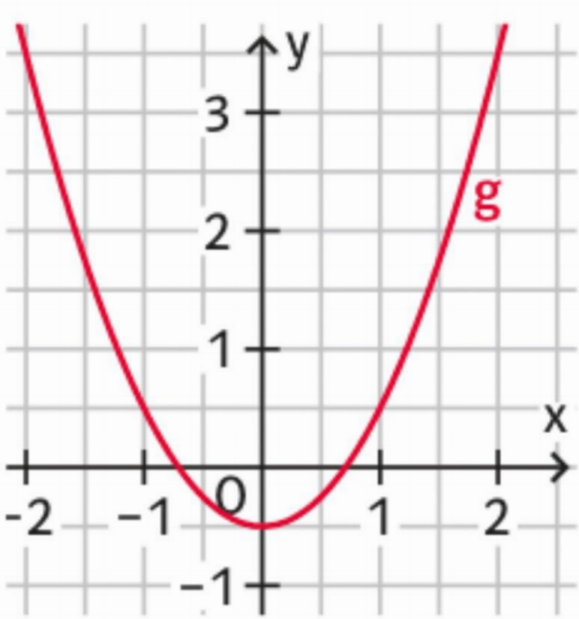
A8 a)





Normalparabel → $a = 1$

f: $S(-1|0)$

$y = (x+1)^2$

g: $S(0|-0,5)$

$y = x^2 - 0,5$

Bildquelle: Lambacher Schweizer 9, Klett, 2022

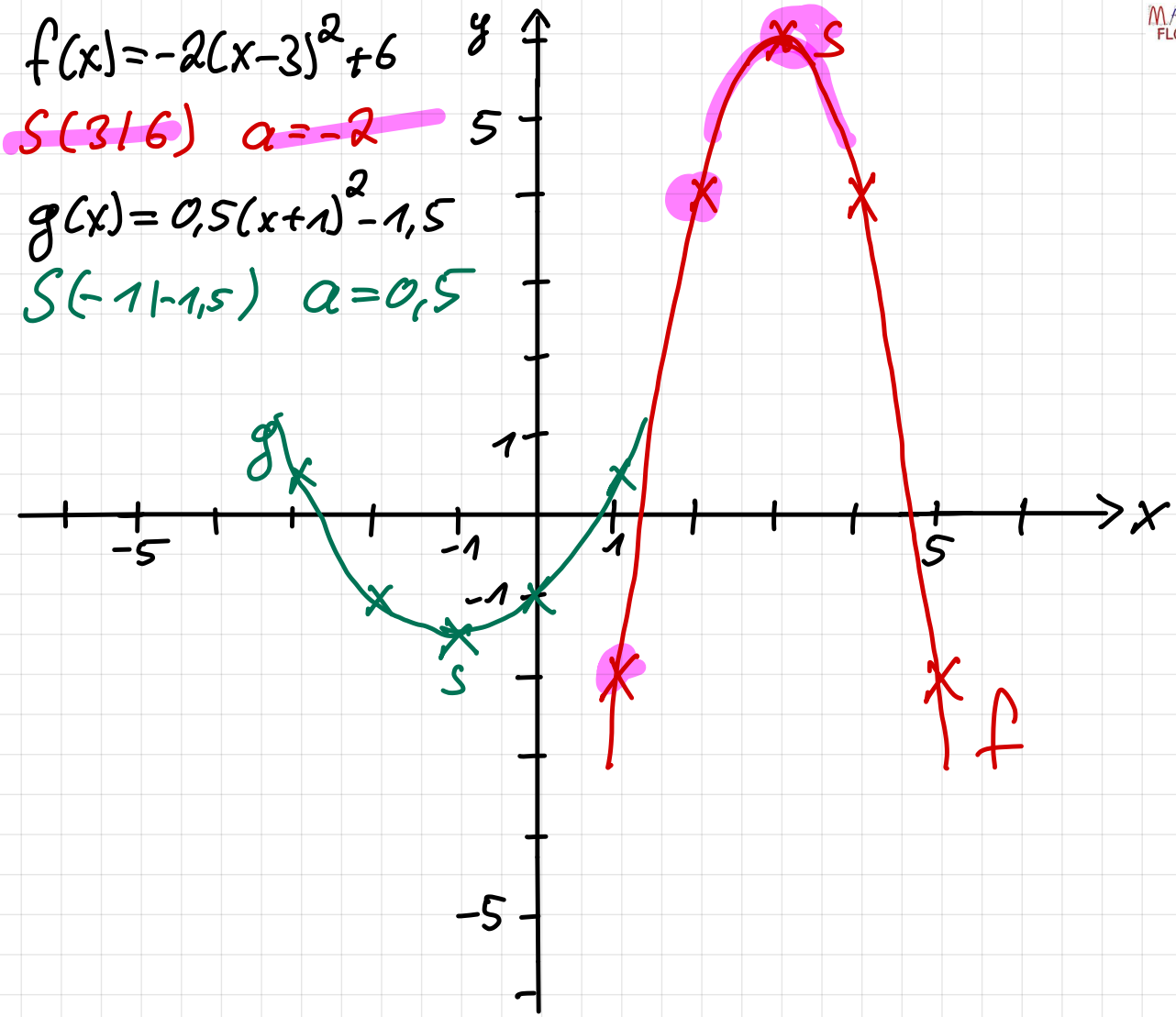
A10]

$f(x) = -2(x-3)^2 + 6$

$S(3|6)$ $a = -2$

$g(x) = 0{,}5(x+1)^2 - 1{,}5$

$S(-1|-1{,}5)$ $a = 0{,}5$



S.48 A13

$f(x) = 3(x-2)^2 + 1$

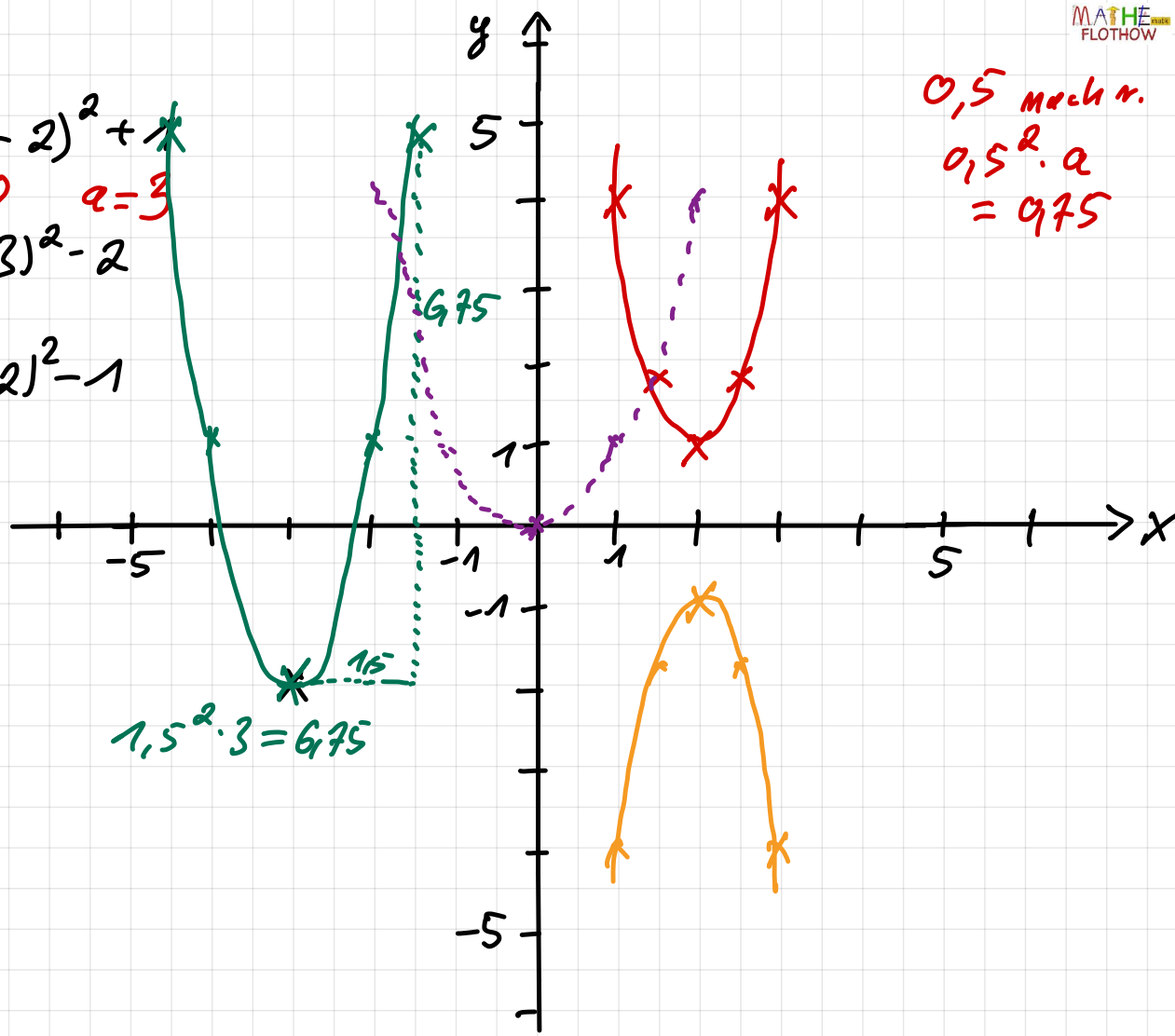
S(2|1) a=3

$a(x) = 3(x+3)^2 - 2$

S(-3|-2)

$b(x) = -3(x-2)^2 - 1$

S(2|-1)



Aufstellen der Scheitelpunktform

$f(x) = a(x-d)^2 + e$

a) $S(3|7)$ $a=5$ $\rightarrow$ $f(x) = 5(x-3)^2 + 7$

b) $S(-1|-3)$ $P(2|15)$ $\rightarrow$ $f(x) = a \cdot (x+1)^2 - 3$

P einsetzen

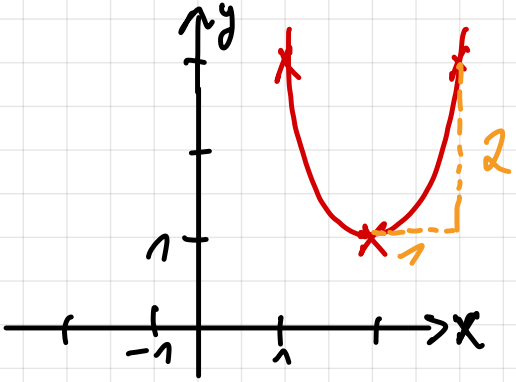
$15 = a(2+1)^2 - 3 \quad | +3$

$18 = a \cdot 9 \quad | :9$

$2 = a$

$f(x) = 2 \cdot (x+1)^2 - 3$

c)



Ablesen: $S(2|1)$ $a=2$

$f(x) = 2(x-2)^2 + 1$

Scheitelpunkt und Streckfaktor ablesen $\leftrightarrow$ berechnen

S. 57 A 2 a)

S(-1|-3) P(1|5)

Allgemeine Form $f(x) = a(x-d)^2 + e$

S einsetzen $f(x) = a(x+1)^2 - 3$

P einsetzen $5 = a(1+1)^2 - 3$ | + 3

$8 = a \cdot 4$ | : 4

$2 = a$

$f(x) = 2(x+1)^2 - 3$

- Binomische Formeln

- lineare Gleichungssysteme

Binomische Formel

$(a+b)^2 = a^2 + 2ab + b^2$

$(a-b)^2 = a^2 - 2ab + b^2$

$(a+b)(a-b) = a^2 - b^2$

$(x+2)^2 = x^2 + 2 \cdot x \cdot 2 + 2^2 = x^2 + 4x + 4$

$(x+3)^2 = x^2 + 6x + 9$

$\frac{6}{2} = 3 \qquad 3 \cdot 3$

$x^2 + 8x + \underline{16} = (\underline{x} + \underline{4})^2$

↳ 4 ↗ $()^2$

:2

$x^2 + 10x + 30$ (25 !? 12)

↳ 5 ↗ $()^2$

:2

$= \underbrace{x^2 + 10x + 25} \underbrace{- 25 + 30}$

$= (x + 5)^2 + 5$

HA S.

S. 49 A 14 b

S. 57 A 1 b

S. 57 A 2 b