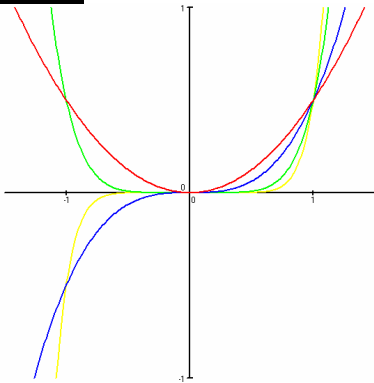


2.3 Grafieken veranderen

Opgave 42:

a.



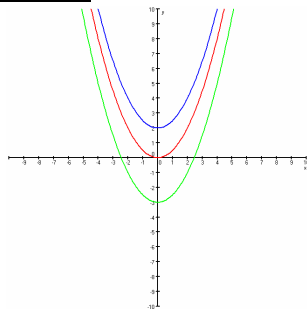
b. $(0,0)$ en $(1, \frac{1}{2})$

c. y_1 en y_3

d. y_1 en y_3

Opgave 43:

a.



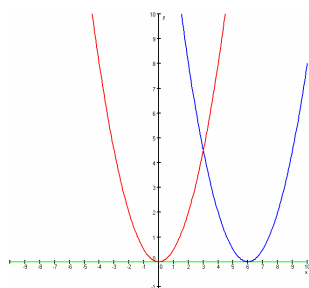
b. translatie over $(0,2)$

c. translatie over $(0,-3)$

d. als je de grafiek van $y = 0,5x^2$ transleert over $(0,6)$ krijgt je de grafiek van $y = 0,5x^2 + 6$.

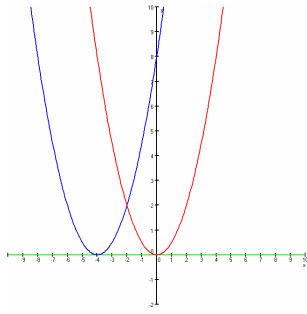
Opgave 44:

a.



transleer over $(6,0)$

b.



transleer over $(-4,0)$

- c. als je de grafiek van $y = 0,5x^2$ transleert over $(2,0)$ krijg je de grafiek van $y = 0,5(x - 2)^2$.

Opgave 45:

- a. $y = -5(x - 2)^2 + 5$
 b. $y = -5(x + 3)^2 + 6$
 c. $y = -5(x - 7)^2$

Opgave 46:

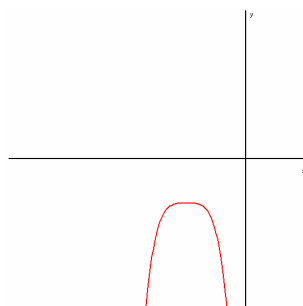
$$g(x) = 2(x + 2)^2 \quad h(x) = 2(x - 2)^2 - 2 \quad k(x) = 2(x + 1)^2 - 3 \quad l(x) = 2(x - 1)^2 - 4$$

Opgave 47:

- a. $\max f(0) = 2$ $B_f = \langle \leftarrow, 2 \rangle$
 b. $\max g(2) = 8$ $B_g = \langle \leftarrow, 8 \rangle$
 c. $\min h(-1) = 0$ $B_h = [0, \rightarrow \rangle$
 d. $\min k(0) = 1$ $B_k = [1, \rightarrow \rangle$
 e. $\max l(100) = 0$ $B_l = \langle \leftarrow, 0 \rangle$
 f. $\max m(-0,1) = -0,3$ $B_m = \langle \leftarrow; -0,3 \rangle$

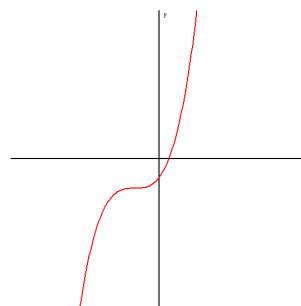
Opgave 48:

a.

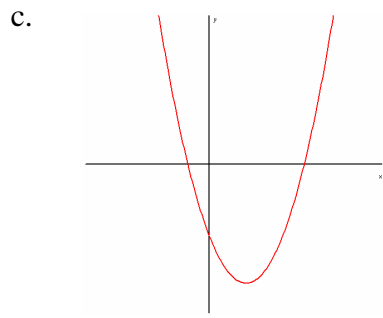


$$\max f(-2) = -3$$

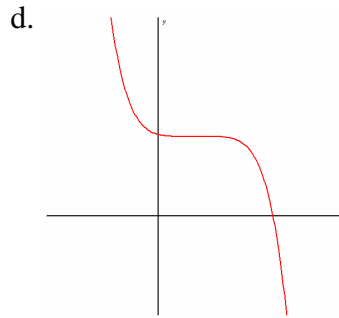
b.



punt van symmetrie $(-\frac{1}{2}, -2)$

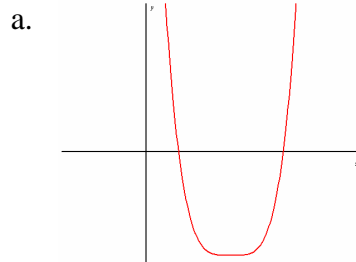


min $h(3) = -4$

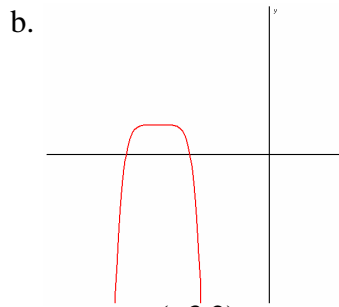


punt van symmetrie (1,4)

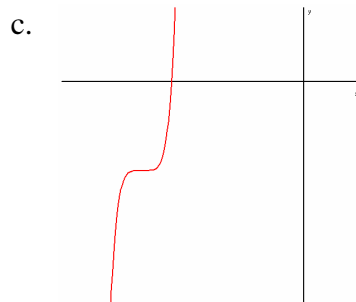
Opgave 49:



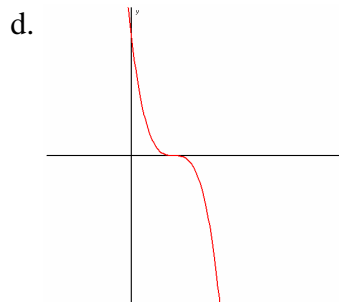
top (2,-7)



top (-3,2)



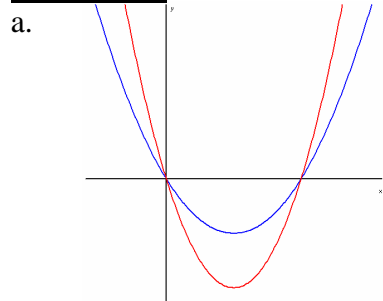
punt van symmetrie (-3,2)



punt van symmetrie (1,0)

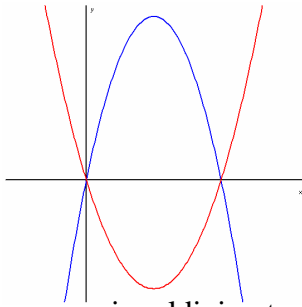
Opgave 50:

Opgave 51:



vermenigvuldiging ten opzichte van de x -as met factor 0,5.

b.



Opgave 52:

$$y = -0,5x^3 \xrightarrow{T(-3,-5)} y = -0,5(x+3)^3 - 5 \xrightarrow{V_{x-as}, -3} y = -3 \cdot (-0,5(x+3)^3 - 5)$$

dus $y = 1,5(x+3)^3 + 15$

Opgave 53:

a. top $(3,7) \xrightarrow{T(1,2)} \text{top } (4,9) \xrightarrow{V_{x-as}, 1\frac{1}{2}} \text{top } (4,13\frac{1}{2})$

b. top $(-4,-7) \xrightarrow{V_{x-as}, 2} \text{top } (-4,-14) \xrightarrow{T(-1,3)} \text{top } (-5,-11)$

Opgave 54:

a. $y = 0,3x^4 \xrightarrow{T(-5,6)} y = 0,3(x+5)^4 + 6 \xrightarrow{V_{x-as}, -3} y = -0,9(x+5)^4 - 18$
top $(-5,-18)$

b. $y = 0,3x^4 \xrightarrow{V_{x-as}, -3} y = -0,9x^4 \xrightarrow{T(-5,6)} y = -0,9(x+5)^4 + 6$
top $(-5,6)$

Opgave 55:

a. vermenigvuldiging ten opzichte van de x -as met factor -1 .

b. $y = -3(x-1)^2 + 6$