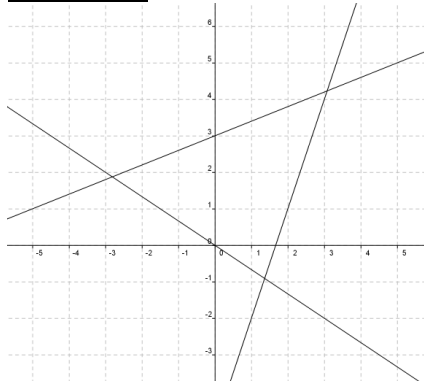


1.6 Diagnostische toets

Opgave 1:



Opgave 2:

$$rc_k = rc_l = 2 \text{ dus } a = 2$$

$$y = 2x + b \text{ door } (-3, 4)$$

$$4 = -6 + b$$

$$10 = b$$

$$a = 2 \text{ en } b = 10$$

Opgave 3:

$$\text{a. } rc = \frac{\Delta y}{\Delta x} = \frac{6 - -3}{-1 - 2} = -3$$

$$y = -3x + b \text{ door } (2, -3)$$

$$-3 = -6 + b$$

$$3 = b$$

$$y = -3x + 3$$

$$\text{b. } rc = \frac{\Delta y}{\Delta x} = \frac{280 - 150}{380 - 120} = \frac{130}{260} = 0,5$$

$$y = 0,5x + b \text{ door } (120, 150)$$

$$150 = 60 + b$$

$$90 = b$$

$$y = 0,5x + 90$$

Opgave 4:

$$\text{a. } rc = \frac{\Delta W}{\Delta t} = \frac{2900 - 500}{12 - 4} = 300$$

$$W = 300t + b \text{ door } (4, 500)$$

$$500 = 1200 + b$$

$$-700 = b$$

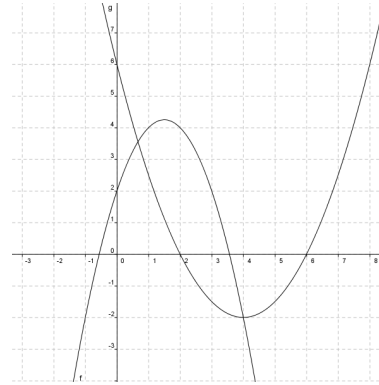
$$W = 300t - 700$$

$$\text{b. } W = 300 \cdot 5,2 - 700 = 860$$

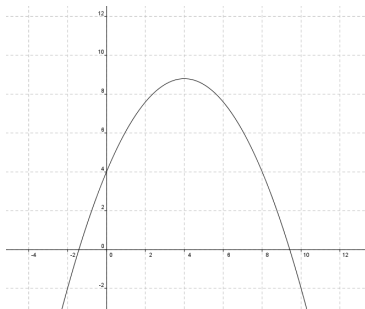
Opgave 5:

x	-2	-1	0	1	2	3	4	5
$f(x)$	-8	-2	2	4	4	2	-2	-8

x	0	1	2	3	4	5	6	7	8
$f(x)$	6	2,5	0	-1,5	-2	-1,5	0	2,5	6

**Opgave 6:**

a.



- b. $y_1 = -0,3x^2 + 2,4x + 4$ de optie maximum geeft: $x = 4$ en $y = 8,8$
dus de top is $(4 ; 8,8)$
- c. de optie zero geeft: $x = -1,42 \vee x = 9,42$
- d. $y_2 = 2$ de optie intersect geeft: $x = -0,761 \vee x = 8,761$
 $AB = 8,761 - -0,761 = 9,52$

Opgave 7:

- a. $y_1 = -5x^2 + 12x + 2$ de optie maximum geeft: $x = 1,2$ en $y = 9,2$
dus 9,2 m
- b. de optie zero geeft: $x = 2,6$ dus na 2,6 sec
- c. $y_2 = 5$ de optie intersect geeft: $x = 2,1$ dus na 2,1 sec

Opgave 8:

- a. $5 = 2 - 6 + c$
 $-c = -9$
 $c = 9$
- b. $3 = 10 + 5b + 6$
 $-5b = 13$
 $b = -2,6$
- c. $-1 = 25a - 6 + 3$
 $-25a = -2$
 $a = 0,08$

Opgave 9:

a. top is (1,-5)

$$y = a(x-1)^2 - 5 \text{ door } (6,-15)$$

$$-15 = 25a - 5$$

$$-25a = 10$$

$$a = -0,4$$

$$y = -0,4(x-1)^2 - 5$$

b. $y = -0,4(x^2 - 2x + 1) - 5$

$$y = -0,4x^2 + 0,8x - 0,4 - 5$$

$$y = -0,4x^2 + 0,8x - 5,4$$

Opgave 10:

$$\min f(1) = -2$$

$$\max f(2) = 1$$

$$\min f(4) = -1$$

Opgave 11:

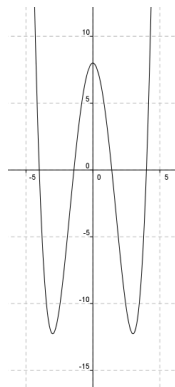
$$y_1 = \frac{1}{4}x^4 - 4\frac{1}{2}x^2 + 8$$

de optie minimum en maximum geeft

$$\min f(-3) = -12,25$$

$$\max f(0) = 8$$

$$\min f(3) = -12,25$$

**Opgave 12:**a. $0 < a < 60$

$$b. 4a^3 - 480a^2 + 14400a = 100000$$

$$y_1 = 4x^3 - 480x^2 + 14400x \text{ en } y_2 = 100000$$

de optie intersect: $x = 10 \vee x = 32,1$

$$\text{dus } a = 10 \vee a = 32,1$$

c. de optie maximum geeft: $x = 20$

dus 80 bij 80 bij 20 cm