

Memorandum gr 11 V, June 2015

1.11 $x = 0$ of $x = 3$ ✓ (2) ✓ alle 2-waarde

1.12 $4x^2 = (x-3)(x-2)$

$4x^2 = x^2 - 5x + 6$

$3x^2 + 5x - 6 = 0$ ✓

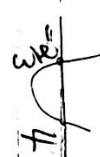
$x = \frac{-5 \pm \sqrt{5^2 - 4(3)(-6)}}{2(3)}$ ✓

$= 0,81$ of $-2,47$ ✓ (4) ✓ alle 2-waarde

1.13 $3x^2 - 10x > 8$

$3x^2 - 10x - 8 > 0$ ✓

$(x-4)(3x+2) > 0$ ✓

$x < -\frac{2}{3}$ of $x > 4$ ✓  (4)

1.2 $q = 2p - 2$ ✓

$2p^2 = 2 - q^2$

$2p^2 = 2 - (2p-2)^2$ ✓

$2p^2 = 2 - (4p^2 - 8p + 4)$

$2p^2 = 2 - 4p^2 + 8p - 4$

$6p^2 - 8p + 2 = 0$ ✓

$3p^2 - 4p + 1 = 0$ ✓

$(3p-1)(p-1) = 0$ ✓

$p = \frac{1}{3}$ of $p = 1$ ✓

$q = -\frac{4}{3}$ of $q = 0$ ✓

(6)

1.3

$5x^2 - 3\sqrt{5}x - 4 = 0$

$b^2 - 4ac = (3\sqrt{5})^2 - 4(5)(-4)$

$= 125$ ✓

Wortels is reël, irrasional, ongelyk ✓ (3)

$m(5)^2 - (m+10)5 - 10 = 0$ ✓

$25m - 5m - 50 - 10 = 0$

$20m = 60$

$m = 3$ ✓

$3x^2 - 13x - 10 = 0$ ✓

$(3x+2)(x-5) = 0$ ✓

$x = -\frac{2}{3}$ of $x = 5$ ✓

ander wortel $-2/3$ ✓

[24]

(3)

✓ ander wortel

✓ faktor

✓ vgl

✓ sent

✓ subst

✓ wortels (a/3)

Wrag 2

2.1.1 $\frac{3 \cdot 5 \cdot 3^{2x+2} \cdot 5^{2x+1}}{3^{3x} \cdot 5^{2x+4}} \cdot \frac{1}{3^{3-x} \cdot 5^{-2}} \cdot \frac{1}{25} \rightarrow \text{acnver } 5^2$ ✓

✓ primfaktor
✓ 3 als p
✓ 5 als p (4)

2.1.2 $\frac{8\sqrt{2} x^3 + 7\sqrt{2} x^3}{5\sqrt{2} \cdot x^2} = \frac{15\sqrt{2} x^3}{5\sqrt{2} x^2} = 3x$ ✓

✓ teller
✓ noemer
(3) ✓ antw

2.1.3 $\frac{3 \cdot 3^2 - 4 \cdot 3^{2+2}}{3^2 - 3^{2-1}} = \frac{3^2(3 - 4 \cdot 3^2)}{3^2(1 - 3^{-1})} = \frac{3-36}{2/3} = \frac{-33}{2/3} = -\frac{99}{2}$ ✓

✓ teller
✓ noemer
✓ antw (3)

2.2 $\sqrt{2-x} = x+4$ ✓

2-x = (x+4)² ✓
2-x = x² + 8x + 16 ✓
x² + 9x + 14 = 0 ✓
(x+7)(x+2) = 0 ✓
x = -7 oder -2 ✓
falsch: x = -2 ✓ (5)

✓ Kwadrates
✓ St. Vorzeichen
✓ Faktore
✓ antw
✓ antw falsch

2.3.1 $2^x + 2^{x+2} = -5y + 20$ ✓

$2^x(1 + 2^2) = -5y + 20$ ✓

$2^x(5) = -5y + 20$ ✓
 $2^x = -y + 4$ ✓ (2)

2 $2^x = -(-4) + 4 = 8$ ✓

$2^x = 2^3$

$x = 3$ ✓ (2)

2.3.3 $-y + 4 > 0$ ✓

$y < 4$

größte heiligkeit $y = 3$ ✓

$2^x = -3 + 4$
 $2^x = 1 = 2^0$
 $x = 0$ ✓ (3)

[2.3]

✓ antw
✓ größte
✓ y = 3
✓ x = 0

$$31 \quad 11 \quad 8 \quad 3 \quad -4 \quad -13$$

$$\checkmark -3 \quad -5 \quad -7 \quad -9$$

$$\checkmark -2 \quad -2 \quad -2$$

$$T_n = -2n - 1 \quad (2)$$

$$32 \quad -41 = -2n - 1 \quad \checkmark$$

$$2n = 40$$

$$n = 20 \quad \checkmark$$

$$T_{20} = 21 \quad (3)$$

$$33 \quad 2a = -2 \quad 3a + b = -3$$

$$a = -1 \quad \checkmark \quad 3(-1) + b = -3$$

$$c = 12 \quad \checkmark \quad b = 0$$

$$a + b + c = 11$$

$$-1 + b + 12 = 11$$

$$b = 11 - 12 + 1$$

$$= 0 \quad \checkmark$$

$$T_n = -n^2 + 12 \quad (4)$$

$$34 \quad T_{50} = -50^2 + 12 \quad \checkmark \quad -2488 \quad \checkmark$$

$$(2)$$

$$[11]$$

$$4.1 \quad a = -\frac{b}{2a} = -\frac{(-4)}{2(2)} = -1 \quad \checkmark$$

$$y = -2(-1)^2 - 4(-1) + 30 = 32 \quad \checkmark$$

$$C(0; 30) \quad D(0; 10) \quad (5)$$

$$4.2 \quad -2x^2 - 4x + 30 = 2x + 10 \quad \checkmark$$

$$-2x^2 - 6x + 20 = 0$$

$$x^2 + 3x - 10 = 0 \quad \checkmark$$

$$(x+5)(x-2) = 0 \quad \checkmark$$

$$x = -5 \text{ or } 2 \quad \checkmark$$

$$y = 2(2) + 10 = 14$$

$$E(2; 14) \quad (5)$$

$$4.3 \quad 2x + 10 - (-2x^2 - 4x + 30) = 60 \quad \checkmark$$

$$2x + 10 + 2x^2 + 4x - 30 = 60$$

$$2x^2 + 6x - 80 = 0 \quad \checkmark$$

$$x^2 + 3x - 40 = 0 \quad \checkmark$$

$$(x-5)(x+8) = 0 \quad \checkmark$$

$$x = 5 \text{ or } -8 \quad \checkmark$$

$$OK = 5 \quad \checkmark$$

$$4.4 \quad 3x^2 \quad \checkmark \quad (5)$$

$$[17]$$

Subst. antw

y-werte

(-1) y-ne

koordinaten

✓

✓ ygl =

✓ SV

✓ Faktor

✓ x-werte

✓ Ekordinat

✓ ygl =

✓ SV

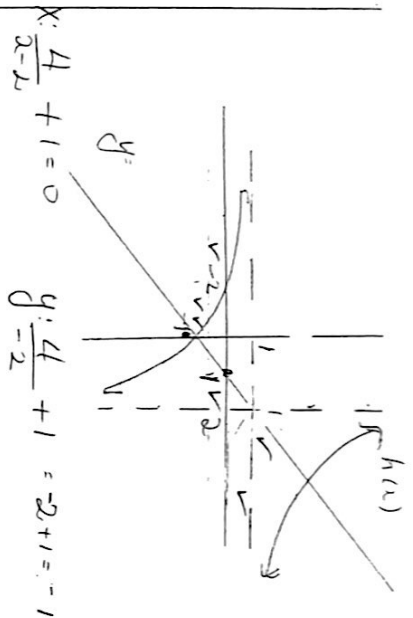
✓ Faktor

✓ Werts

✓ OK

✓ antw

51)



$x: \frac{4}{2-2} + 1 = 0$
 $y: \frac{4}{-2} + 1 = -2 + 1 = -1$
 $\frac{4}{2-2} = -1$
 $-2 + 2 = 4$
 $x = -2$

512 $h(4) = \frac{4}{4-2} + 1 = 3$ Van beginst (-1)

$g(4) = 4 - 1 = 3$ $h(4) = g(4)$
 $\circ \circ (4; 3)$ ~~sympunt~~ Van
 hen g (3)

521 $2x-2 = 2^{-2} = \frac{1}{4}$ $\checkmark$

$2^{1-0} = 2$ $\checkmark$
 $AB = 2 - \frac{1}{4} = 1\frac{3}{4}$ $\checkmark$ (3)

522 $2^{-1-3} = 2^{-2} = \frac{1}{4}$ $\checkmark$

$E(3, \frac{1}{4})$ $\checkmark$
 $A(0, 2)$ $\checkmark$
 $\bar{m} = \frac{2 - \frac{1}{4}}{0 - 3} = -\frac{7}{12}$ $\checkmark$ (3)

g: x-asint $\checkmark$
 y-asint $\checkmark$
 h: asymptot $\checkmark$
 x-asint $\checkmark$
 y-asint $\checkmark$

$h(4) \checkmark$
 $g(4) \checkmark$
 sympunt $\checkmark$

$4 \checkmark$ y-asint $\checkmark$
 $2 \checkmark$ y-asint $\checkmark$
 $AB \checkmark$

Ekkoordirect
 (x en y waarden)
 $\checkmark$ Subst
 waarden

523

$2x-2 = 2^{1-x}$
 $2-2 = 1-x$
 $2x=3$
 $x = \frac{3}{2}$
 $2 \cdot \frac{3}{2} - 2 = 0,71$ $\checkmark$
 $(1,5; 0,71)$ $\checkmark$ (3)

$y_1 = \checkmark$

x-waarde $\checkmark$
 y-waarde $\checkmark$

531

$y = a(x-40)^2 + 9$ $\checkmark$ $h_y y_1$ begin (0)

$(0;5) \quad 5 = a(-40)^2 + 9$ $\checkmark$

$1600a = -4$
 $a = -\frac{1}{400}$ $\checkmark$

$y = -\frac{1}{400}(x-40)^2 + 9$
 $= -\frac{1}{400}(x^2 - 80x + 1600) + 9$

$= -\frac{1}{400}x^2 + \frac{1}{5}x - 4 + 9$
 $= -\frac{1}{400}x^2 + \frac{1}{5}x + 5$

$= -\frac{1}{400}(x^2 - 80x - 2000)$ $\checkmark$ (4)

532

$-\frac{1}{400}(x^2 - 80x - 2000) = 0$ $\checkmark$
 $x^2 - 80x - 2000 = 0$

$(x-100)(x+20) = 0$ $\checkmark$
 $x = 100$ of -20 $\checkmark$

Afstand = 120m $\checkmark$ (4)

[26]

Voltage min
 $y_1 = 0$ $\checkmark$

factor $\checkmark$
 x-waarde $\checkmark$
 afstand $\checkmark$