- Vr 3 - Vr 5 wisk totaal

Gr 9 November Vr 1

Vraag 1

1.1

1.1.1 $4ab(5a^2b^2 + 2ab - 3)$
$= 20a^3b^3 + 8a^2b^2 - 12ab$ ✓✓

-1 per fout (2)

1.1.2 $-3(x+3)^2$
$= -3(x^2 + 6x + 9)$ ✓✓
$= -3x^2 - 18x - 27$ ✓

-1 per fout
-3x (3)

1.2

1.2.1 $6xy - 3x$
$= 3x(2y - 1)$ ✓

3x ✓
2y-1 ✓ (2)

1.2.2 $x^2 + 5x - 14$
$= (x+7)(x-2)$ ✓✓

x+7 ✓
x-2 ✓ (2)

1.2.3 $p^2 - 36$
$= (p+6)(p-6)$ ✓✓

p+6 ✓
p-6 ✓ (2)

1.2.4 $t(x-y) - (y-x)$
$= t(x-y) + (x-y)$
$= (x-y)(t+1)$

x-y ✓ t+1 ✓ (2)

1.2.5 $9p^4 - 36q^2$
$= 9(p^4 - 4q^2)$ ✓
$= 9(p^2+2q)(p^2-2q)$ ✓

(2)
$9(p^4-4q^2)$ ✓
$9(p^2+2q)(p^2-2q)$ ✓ [15]

Vraag 2

2.1.1 $\frac{3x-6y}{3}$

$= \frac{3(x-2y)}{3}$ ✓

$= x-2y$ ✓

$3(x-2y)$ ✓
$x-2y$ ✓
of $x-2y$ (2)

2.1.2 $\frac{4p^2-q^2}{6p+3q}$

$= \frac{(2p+q)(2p-q)}{3(2p+q)}$ ✓ ✓

$= \frac{2p-q}{3}$ ✓

$(2p+q)(2p-q)$ ✓
$3(2p+q)$ ✓
$\frac{2p-q}{3}$ ✓ (3)

2.1.3 $\frac{2a-2}{a+2} \div \frac{a^2+a-2}{a^2-4}$

✓ $\frac{2(a-1)}{a+2}$ ✓ $\times$ ✓ $\frac{(a+2)(a-2)}{(a+2)(a-1)}$ ✓

$= \frac{2(a-2)}{a+2}$ ✓

$2(a-1)$ ✓
$\times$ ✓
$(a+2)(a-2)$ ✓
$(a+2)(a-1)$ ✓
antwoord ✓ (5)

2.2.1 $4(x-2)=15$

$4x-8 = 15$ ✓

$4x = 23$

$x = \frac{23}{4}$ ✓

$4x=23$
$x=\frac{23}{4}$ (2)

2.2.2 $\frac{x}{3} - \frac{x-2}{2} = 4\frac{1}{2}$

$\times 6 \quad \frac{x}{3} - \frac{x-2}{2} \times 6 = \frac{9}{2} \times 6$

$2x - 3(x-2) = 27$ ✓

$2x - 3x + 6 = 27$ ✓

$-x = 21$ ✓

$x = -21$ ✓

x met KGV ✓
$2x - 3x + 6 = 27$ ✓
$-x = 21$ ✓
$x = -21$ ✓ (4)

2.2.3 $4x^2 = 5x$

$4x^2 - 5x = 0$ ✓

$x(4x - 5) = 0$ ✓

$x = 0$ of $x = \frac{5}{4}$ ✓

Neem 5x oor ✓
faktoriseer ✓
$x = 0$ of $x = \frac{5}{4}$ (3)

2.2.4 $2^{x-1} = \frac{1}{32}$

$2^{x-1} = 2^{-5}$ ✓

$x - 1 = -5$

$x = -4$ ✓

priemfaktoriseer: 2^{-5}
antw: $x = -4$
(2)

2.3

2.3.1 $(3x)^4 + (2x^2)^2$

$= 81x^4 + 4x^4$ ✓

$= 85x^4$ ✓

$81x^4$ ✓ $4x^4$ ✓
$85x^4$ (3)

2.3.2 $\frac{5a^2b^{-1}}{15a^{-2}b^4}$

$= \frac{1a^4}{3b^5}$ ✓

$\frac{1}{3}$ ✓
a^4 (teller)
b^5 (noemer) (3)

2.3.3 $4m^0 - (2m)^0$

$= 4 - 1$ ✓

$= 3$ ✓

✓ ✓
$4 - 1$
$= 3$ ✓ (3)

30

Vraag 3

3.1 -18; -26 ✓✓ — -18, -26 ✓ (2)

3.2 $T_n = -8n + 14$ ✓✓ — $-8n$ ✓, $+14$ ✓ (2)

3.3 $-154 = -8n + 14$ ✓

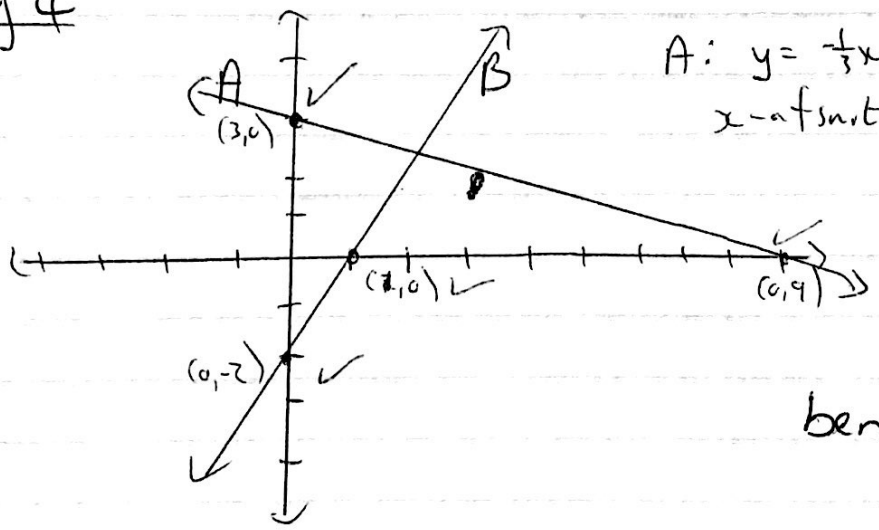
$-168 = -8n$

$n = 21$ ✓ — $-154 = -8n + 14$ ✓; $n = 21$ ✓ (2)

/6/

Vraag 4

4.1



A: $y = -\frac{1}{3}x + 3$

x-afsnit: $0 = -\frac{1}{3}x + 3$

$\frac{1}{3}x = 3$

$x = 9$

B: $y = 2x - 2$

benoem ✓

(5)

4.2

4.2.1 $y = -4x + 6$ ✓✓ — $-4x$ ✓, $+6$ ✓ (2)

4.2.2 AB: $y = \frac{3}{4}x + 3$ ✓✓ — $\frac{3}{4}x + 3$ ✓✓

4.2.3 CD: $y = \frac{3}{4}x - 5$ ✓ — $\frac{3}{4}x - 5$ ✓

4.2.4 EF: $x = -4$ ✓ — -4 ✓ (5)

/12/

Vraag 5

5.1 $\frac{3}{2} \times \frac{72}{1}$

$= 108$ ✓

antw ✓ (1)

5.2 3 studente → R2250

5 studente → munte

$\frac{3}{5} \times 2250$

$= R1350$ ✓✓

antw ✓✓ (2)

5.3 $\frac{6}{55} \times \frac{694,65}{1}$

$= R75,78$ ✓✓

antw ✓✓ (2)

5.4 $A = P(1+i)^n$

$A = 13500(1 + \frac{4}{100})^5$ ✓

$A = 16424,81$ ✓

installing in formule ✓

$A = 16424,81$ ✓

$\therefore$ Rente $= 16424,81 - 13500$

$= R2924,81$ ✓

antw ✓ (3)

5.5 $\frac{85}{100} \times 12500 =$

$= R10625$ ✓

R10625 ✓

installing in formule ✓

R13281,25 ✓

Paiement ✓

$A = P(1 + i \times n)$

$= 10625(1 + \frac{12,5}{100} \times 2)$ ✓

$= 13281,25$ ✓

$\therefore$ Paiement $= \frac{13281,25}{24}$ ✓ (4)

$= R553,39$ [12]