H12A Breuken en functies (gedeeltelijk)

H12B Breuken en functies

1a	$2a^6 = -4$	3
	$a^6 = -2$; geen oplossing	
b	$5c^4 = 0,825$	3
	$c^4 = 0,165$	
	$c \approx -0,637$ of $c \approx 0,637$	
c	$(-\frac{1}{3}p)^3 = -27$	3
	$-\frac{1}{3}p = -3$	
	$p = 9$	

9

2a	$I = 0,5 \times 5,5^3 \approx 83,19$ cm^3	2
b	$0,5d^3 = 1150$	3
	$d^3 = 2300$	
	$d \approx 13,2$ cm	

5

3a	$f(x) = -\dfrac{1}{14}(21 - 28x)$ of $f(x) = \dfrac{3 - 4x}{-2}$	2
	$f(x) = 2x - 1\frac{1}{2}$	
b	$x \neq 0$	1
	$g(x) = \dfrac{6 \cdot 7 \cdot x^6}{2 \cdot 35 \cdot x^6}$	
	$g(x) = \frac{3}{5}$	2
c	$x \neq 0$	1
	$h(x) = \dfrac{3x^2(6x^3 - 7x)}{3x^2}$	
	$h(x) = 6x^3 - 7x$	2
d	$x \neq -2$	1
	$j(x) = \dfrac{(x + 2)(x - 5)}{x + 2}$	
	$j(x) = x - 5$	2

11

4a	$x \neq 0$	1
	$f(x) = \dfrac{10}{2x} - \dfrac{3}{2x}$	
	$f(x) = \dfrac{7}{2x}$	2
b	$x \neq 0$	1
	$g(x) = \dfrac{4x}{4x} + \dfrac{3}{4x}$	
	$g(x) = \dfrac{4x + 3}{4x}$	2
c	$x \neq 5$	1

d	$h(x) = \dfrac{4x-20}{x-5} + \dfrac{2}{x-5}$	2
	$h(x) = \dfrac{4x-18}{x-5}$	
	$x \neq 0$	1
	$j(x) = \dfrac{1}{x^2} - \dfrac{x^3}{x^2}$	
	$j(x) = \dfrac{1-x^3}{x^2}$	2

<div align="right">12</div>

5a	$20 - 4x \neq 0$	1
	$x \neq 5$	
	$121 = (20-4x)(x+6)$	
	$121 = -4x^2 - 4x + 120$	
	$4x^2 + 4x + 1 = 0 \quad (2x+1)^2 = 0 \quad 2x+1 = 0 \quad 2x = -1 \quad x = -\dfrac{1}{2}$	
	of	
	$D = 4^2 - 4 \times 4 \times 1 = 0$ dus $x = \dfrac{-4}{2\times 4} = -\tfrac{1}{2}$	3
b	$x \neq 0$ en $2x - 3 \neq 0$	2
	$x \neq 0$ en $x \neq 1{,}5$	
	$11x = (3x+2)(2x-3)$	
	$11x = 6x^2 - 5x - 6$	
	$6x^2 - 16x - 6 = 0$	
	$D = (-16)^2 - 4 \times 6 \times -6 = 400$ dus $x = \dfrac{16-\sqrt{400}}{2\times 6} = -\tfrac{1}{3}$ of $x = \dfrac{16+\sqrt{400}}{2\times 6} = 3$	3

<div align="right">9</div>

6a	Horizontale asymptoot van f is $y = 3$ en de verticale asymptoot is $x = 2$.	2
b	$3 - \dfrac{11}{x-2} = 2x + 8\dfrac{1}{2} \qquad -\dfrac{11}{x-2} = 2x + 5\dfrac{1}{2} \qquad -11 = (2x+5\tfrac{1}{2})(x-2)$	
	$-11 = 2x^2 + 1\dfrac{1}{2}x - 11 \qquad 2x^2 + 1\dfrac{1}{2}x = 0 \qquad 4x^2 + 3x = 0$	
	$x(4x+3) = 0 \qquad x = 0$ of $4x + 3 = 0$	
	$x = 0 \qquad$ of $\quad x = -\dfrac{3}{4}$	4
	$g(0) = 8\dfrac{1}{2}$ en $g(-\dfrac{3}{4}) = 7$	
	De snijpunten van de grafieken van f en g zijn $(0, 8\tfrac{1}{2})$ en $(-\tfrac{3}{4}, 7)$	2

<div align="right">8</div>

totaalscore 54,　　cijfer = (score + 6)/6