KLASKAMER 10

GRAAD 10 WISKUNDE: EPISODE 27

ALGEBRAÏESE UITDRUKKINGS

VRAAG 1:

Vereenvoudig elk van die volgende sover as moontlik:

a. $$\frac{\frac{2x+2}{y}}{\frac{x+1}{xy}} + \frac{\frac{x^2+7x+12}{x^2+3x}}{\frac{x+4}{x^2}}$$ (5)

b. $$\frac{x^2-9x+18}{x^2-13x+36} - \frac{x}{x-4}$$ (5)

TOTAAL: 10 PUNTE

GRAAD 10 WISKUNDE: EPISODE 27 (MEMORANDUM)

ALGEBRAÏESE UITDRUKKINGS

VRAAG 1

a)

$$\left(\frac{2x+2}{y} \div \frac{x+1}{xy}\right) + \left(\frac{x^2+7x+12}{x^2+3x} \div \frac{x+4}{x^2}\right)$$

$$= \left(\frac{2\cancel{(x+1)}}{\cancel{y}} \times \frac{x\cancel{y}}{\cancel{(x+1)}}\right) + \left(\frac{\cancel{(x+3)}\cancel{(x+4)}}{\cancel{x}\cancel{(x+3)}} \times \frac{x^{\cancel{2}}}{\cancel{(x+4)}}\right) \checkmark\checkmark\checkmark$$

$$= 2x + x \checkmark$$

$$= 3x \checkmark$$

b)

$$\frac{x^2-9x+18}{x^2-13x+36} - \frac{x}{x-4}$$

$$= \frac{(x-3)(x-6)}{(x-9)(x-4)} - \frac{x}{(x-4)} \checkmark\checkmark$$

$$= \frac{(x-3)(x-6)-x(x-9)}{(x-9)(x-4)} \checkmark$$

$$= \frac{\cancel{x^2}-\cancel{9x}+18-\cancel{x^2}+\cancel{9x}}{(x-9)(x-4)} \checkmark$$

$$= \frac{18}{(x-9)(x-4)} \checkmark$$