

Vergelykings

Werkkaart 1

Memorandum

Vraag 1:

1.1 $2(x + 1) - 3x = 5(4 - x)$
 $\therefore 2x + 2 - 3x = 20 - 5x$
 $\therefore 2x - 3x + 5x = 20 - 2$
 $\therefore 4x = 18$
 $\therefore x = 4\frac{1}{2}$ (3)

1.2 $(x - 2)(x + 3) - 3 = -2x + (x - 1)^2$
 $x^2 + x - 6 - 3 = -2x + x^2 - 2x + 1$
 $\therefore x^2 - x^2 + x + 2x + 2x = 1 + 6 + 3$
 $\therefore 5x = 10$
 $\therefore x = 2$ (5)

1.3 $\frac{x+2}{4} - \frac{x-6}{3} = \frac{1}{2}$ KGV van noemers is 12.
 $\times 12: 3(x + 2) - 4(x - 6) = 6$
 $\therefore 3x + 6 - 4x + 24 = 6$
 $\therefore -x = 6 - 30$
 $\therefore x = 24$ (4)

1.4 $\frac{5}{4} + \frac{2}{3a} = 4 - \frac{a-3}{12a}$ KGV van noemers is 12a
 $\times 12a: \therefore 3a \cdot 5 + 4 \cdot 2 = 12a \cdot 4 - (a - 3)$
 $\therefore 15a + 8 = 48a - a + 3$
 $\therefore 15a - 47a = 3 - 8$
 $\therefore -32a = -5$
 $\therefore a = \frac{5}{32}$ (4)

Vraag 2:

2.1 $(x - 3)(x + 1) = 0$
 $\therefore (x - 3) = 0$ of $(x + 1) = 0$
 $\therefore x = 3$ of $x = -1$ (2)

2.2 $x^2 - 8x = -15$
 $\therefore x^2 - 8x + 15 = 0$
 $\therefore (x - 3)(x - 5) = 0$
 $\therefore x = 3$ of $x = 5$ (4)

2.3 $(x - 7)(x + 2) = 10$
 $\therefore x^2 - 5x - 14 = 10$
 $\therefore x^2 - 5x - 24 = 0$
 $\therefore (x - 8)(x + 3) = 0$
 $\therefore x = 8$ of $x = -3$ (5)

2.4 $x^3 - x = 0$
 $\therefore x(x^2 - 1) = 0$
 $\therefore x(x + 1)(x - 1) = 0$ OF $x = 0$ of $(x^2 - 1) = 0$
 $\therefore x = 0$ of $x = -1$ of $x = 1$ $\therefore x = 0$ of $x = \mp 1$ (4)

2.5 $\frac{2x+1}{x+1} - \frac{x+2}{x} = 1$ KGV van noemers is $x(x + 1)$
 $\times x(x + 1):$ $x(2x + 1) - (x + 1)(x + 2) = x(x + 1)$
 $\therefore 2x^2 + x - (x^2 + 3x + 2) = x^2 + x$
 $\therefore 2x^2 + x - x^2 - 3x - 2 - x^2 - x = 0$
 $\therefore -3x = 2$
 $\therefore x = -\frac{2}{3}$ (6)



2.6 $7x = 49x^2$

$$\therefore 49x^2 - 7x = 0$$

$$\therefore 7x(7x - 1) = 0$$

$$\therefore 7x = 0 \text{ of } (7x - 1) = 0$$

$$\therefore x = 0 \text{ of } 7x = 1$$

$$\therefore x = \frac{1}{7}$$

(3)

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Totaal: [40]