



Opleiding: Middenkaderfunctionaris Bouw en Infra
Leerweg: BOL Niveau 4

Wiskunde 2-2

Oefentoets 01

Uitwerking

Te behalen punten = 35

Naam: _____

Klas: _____

Datum: _____

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Paragraaf _Rekenvolgorde en vergelijkingen

Los de volgende vergelijkingen op met behulp van de balansmethode.

(Let op de rekenvolgorde en laat alle benodigde oplossingsstappen duidelijk zien.)

Opgave 1: (4) punten

$$4k - 1400 = 200$$

Handwritten solution for the equation $4k - 1400 = 200$ on grid paper. The steps are as follows:

$$\begin{array}{r} 4k - 1400 = 200 \\ + 1400 \qquad + 1400 \\ \hline 4k = 1600 \\ \div 4 \qquad \div 4 \\ \hline \frac{4k}{4} = \frac{1600}{4} \\ k = 400 \end{array}$$

1 pt.

1 pt.

1 pt.

1 pt.

Opgave 2: (5) punten

$$4(m - 5)^2 = 64$$

Handwritten solution for the equation $4(m - 5)^2 = 64$ on grid paper. The steps are as follows:

$$\begin{array}{r} 4(m - 5)^2 = 64 \\ \div 4 \qquad \div 4 \\ \hline \frac{4(m - 5)^2}{4} = \frac{64}{4} \\ (m - 5)^2 = 16 \\ \sqrt{\quad} \qquad \sqrt{\quad} \\ \hline \sqrt{(m - 5)^2} = \sqrt{16} \\ (m - 5) = 4 \\ m - 5 = 4 \\ +5 \qquad +5 \\ \hline m = 9 \end{array}$$

1 pt.

1 pt.

1 pt.

1 pt.

1 pt.

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Opgave 3: (5) punten

$$15(3n + 10) = 240$$

$$\begin{aligned} 15(3n+10) &= 240 \\ \div 15 & \quad \div 15 \\ \frac{15(3n+10)}{15} &= \frac{240}{15} \\ (3n+10) &= 16 \\ 3n+10 &= 16 \\ -10 & \quad -10 \\ 3n &= 16-10 \\ 3n &= 6 \\ \div 3 & \quad \div 3 \\ n &= \frac{6}{3} \\ n &= 2 \end{aligned}$$

1 pt.

1 pt.

1 pt.

1 pt.

1 pt.

Opgave 4: (5) punten

$$15 + 2\sqrt{m} = 35$$

$$\begin{aligned} 15 + 2\sqrt{m} &= 35 \\ -15 & \quad -15 \\ 2\sqrt{m} &= 35-15 \\ 2\sqrt{m} &= 20 \\ \div 2 & \quad \div 2 \\ \frac{2\sqrt{m}}{2} &= \frac{20}{2} \\ \sqrt{m} &= 10 \\ \text{k. wad. rateren } (\)^2 & \quad (\)^2 \\ (\sqrt{m})^2 &= (10)^2 \\ m &= 100 \end{aligned}$$

1 pt.

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Opgave 5: (5) punten

$$6 + \frac{8k}{2} = 4 - 5k + 12 + k$$

$$\begin{aligned} 6 + \frac{8k}{2} &= 4 - 5k + 12 + k \\ 6 + 4k &= 16 - 4k \\ +4k & \quad +4k \\ 6 + 8k &= 16 \\ -6 & \quad -6 \\ 8k &= 16 - 6 \\ 8k &= 10 \\ :8 & \quad :8 \\ \frac{8k}{8} &= \frac{10}{8} \\ k &= \frac{5}{4} \end{aligned}$$

1 pt.

1 pt.

1 pt.

1 pt.

1 pt.

Opgave 6: (6) punten

$$-x + 7 = x - 1(11 + 3x)$$

$$\begin{aligned} -x + 7 &= x - 1 \cdot (11 + 3x) \\ -x + 7 &= x - 1 \cdot 11 + -1 \cdot 3x \\ -x + 7 &= x - 11 - 3x \\ -x + 7 &= -2x - 11 \\ +2x & \quad +2x \\ -x + 2x + 7 &= -2x + 2x - 11 \\ x + 7 &= -11 \\ -7 & \quad -7 \\ x + 7 - 7 &= -11 - 7 \\ x &= -18 \end{aligned}$$

1 pt.

1 pt.

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1 pt.

1 pt.

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Opgave 7: (5) punten

$$0,5\sqrt{2x-1} = 1$$

$$\begin{aligned} 0,5\sqrt{2x-1} &= 1 \\ \div 0,5 &\quad \div 0,5 \\ \frac{0,5\sqrt{2x-1}}{0,5} &= \frac{1}{0,5} \\ \sqrt{2x-1} &= 2 \\ (\)^2 &\quad (\)^2 \\ (\sqrt{2x-1})^2 &= (2)^2 \\ 2x-1 &= 4 \\ +1 &\quad +1 \\ 2x-1+1 &= 4+1 \\ 2x &= 5 \\ \div 2 &\quad \div 2 \\ \frac{2x}{2} &= \frac{5}{2} \\ x &= \frac{5}{2} \end{aligned}$$

1 pt.

1 pt.

1 pt.

1 pt.

1 pt.