



Drukbare assessering CAMI Wiskunde: Graad 9

Algebraïese vergelykings

1. Los die vergelykings op.

1.1 $\frac{n}{13} = -12$

1.2 $n + 30 = 26$

1.3 $46p + 2 = 42p + 10$

1.4 $37m - 48 = 35m - 30$

1.5 $-9(12Z) - 72 = 5(-24Z)$

1.6 $6(-5m - 4) + 10 = 2(-18m + 5)$

1.7 $-14 + \frac{p}{4} = -23$

1.8 $8h^2 = -96h$

1.9 $y^2 - 144 = 0$

1.10

2. Los die woord probleme op.

2.1 Drie keer 'n getal minus 7 is gelyk aan die getal plus 25.
Bepaal die getal.

2.2 Breyten het tydens hierdie seisoen 5 drieë meer as Peter gedruk.
Saam het hulle 19 drieë gedruk. Hoeveel drieë het Breyten gedruk?

3. Los die eksponensiaal vergelykings op.

3.1 $49^d = \frac{1}{49}$

3.2 $25^y = 1$

3.3 $5v^{\frac{1}{3}} = 15$



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MEMO

1. Los die vergelyking op.

[4.2.1.3; 4.2.1.4; 4.2.1.5; 4.2.2.1; 4.2.2.1; 4.2.3.1; 4.2.5.2; 4.2.5.3; 4.5.5.4]

1.1

$$\frac{n}{13} = -12$$

$$n = -12 \times 13$$

$$n = -156$$

1.2

$$n + 30 = 26$$

$$n = 26 - 30$$

$$n = -7$$

1.3

$$46p + 2 = 42p + 10$$

$$46p - 42p = 10 - 2$$

$$4p = 8$$

$$p = 2$$

1.4

$$37m - 48 = 35m - 30$$

$$37m - 35m = 48 - 30$$

$$2m = 18$$

$$m = 9$$

1.5

$$-9(12Z) - 72 = 5(-24Z)$$

$$-108Z - 72 = -120Z$$

$$12Z = 72$$

$$Z = 6$$

1.6

$$6(-5m - 4) + 10 = 2(-18m + 5)$$

$$-30m - 24 + 10 = -36m + 10$$

$$6m = 24$$

$$m = 4$$

1.7

$$-14 + \frac{p}{4} = -23$$

$$\frac{p}{4} = -9$$

$$p = -36$$

1.8

$$8h^2 = -96h$$

$$8h^2 + 96h = 0$$

$$8h(h + 12) = 0$$

$$h = 0; h = -12$$

1.9

$$y^2 - 144 = 0$$

$$(y + 12)(y - 12) = 0$$

$$y = -12; y = 12$$



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2. Los die woord somme op.

[3.8.1.10]

2.1 $3x - 7 = 2x + 25$
 $x = 32$

2.2 $B + P = 19$ and $B = 5 + P$
 $(5 + P) + P = 19$
 $2P = 14$
 $P = 7$

$B = 5 + 7 = 12$

3. Los die eksponensiaal vergelykings op.

[4.9.1.1; 4.9.2.1]

3.1

$$49^d = \frac{1}{49}$$
$$7^{2d} = 7^{-2}$$
$$2d = -2$$
$$d = -1$$

3.2

$$25^y = 1$$
$$5^{2y} = 5^0$$
$$2y = 0$$
$$y = 0$$

3.3

$$8n^{\frac{1}{2}} = 48$$
$$n^{\frac{1}{2}} = 6$$
$$(n^{\frac{1}{2}})^2 = (6)^2$$
$$\therefore n = 36$$

3.4

$$5v^{\frac{1}{3}} = 15$$
$$v^{\frac{1}{3}} = 3$$
$$(v^{\frac{1}{3}})^3 = (3)^3$$
$$\therefore v = 27$$