8.2.7

①

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Gr 8 Wiskunde / Mathematics

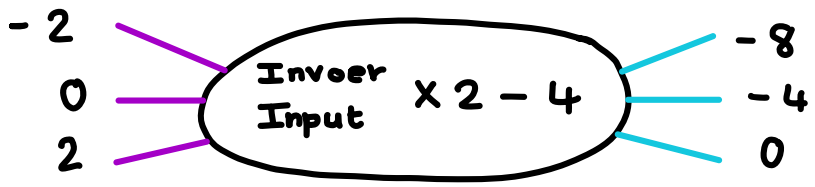
Funksies en Verwantskappe / Functions and Relationships

- Invoerwaardes | Input Values (x)
  - ↳ Onafhanklike
  - ↳ $y = 2x + 4$
    $y = 2( ) + 4$
  - ↳ In getalpatrone (n)
    $T_n = 5n - 2$
  - ↳ Independent
  - ↳ $y = 2x + 4$
    $y = 2( ) + 4$
  - ↳ In number patterns (n)
    $T_n = 5n - 2$

- Uitvoerwaardes / Output Values (y)
  - ↳ Afhanklike
  - ↳ $y = 2x + 4$
    $y = 2x + 4$
  - ↳ In getalpatrone (T_n)
    $T_n = 5n - 2$
  - ↳ Dependent
  - ↳ $y = 2x + 4$
    $y = 2x + 4$
  - ↳ In number patterns (T_n)
    $T_n = 5n - 2$

1. Vloeidiagramme | Flow diagrams

Invoer / Input — uitvoer / Output



2. Tabelle / Tables

$T_n = n \times 2 - 4$

n	-2	-1	0	1	2
T_n	-8	-6	-4	-2	0

$T_n = -2 \times 2 - 4$ $T_n = -1 \times 2 - 4$ $T_n = 0 \times 2 - 4$ $T_n = 1 \times 2 - 4$ $T_n = 2 \times 2 - 4$

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3. Formule | Formula

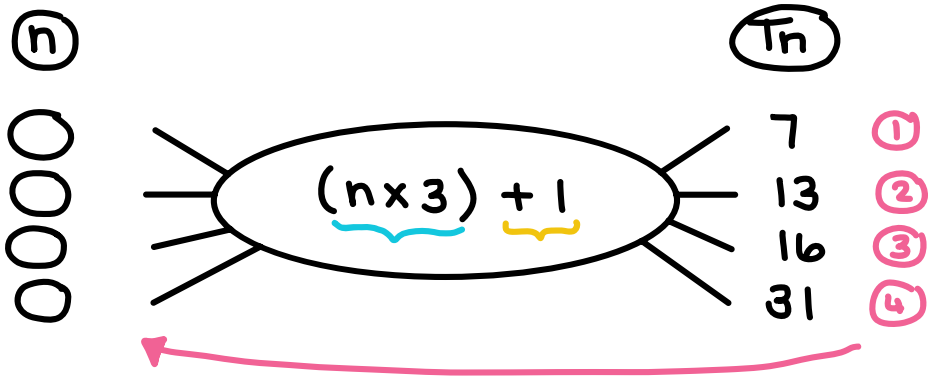
$y = 2x - 4$ Indien $x \in \{-2; -1; 0; 1; 2\}$

$x = -2$	$y = 2(-2) - 4$	$y = -8$
$x = -1$	$y = 2(-1) - 4$	$y = -6$
$x = 0$	$y = 2(0) - 4$	$y = -4$
$x = 1$	$y = 2(1) - 4$	$y = -2$
$x = 2$	$y = 2(2) - 4$	$y = 0$

- Jy moet die invoerwaardes ook kan bepaal indien die uitvoerwaardes gegee word.
- You should be able to provide the input values if the output values are given.

☆ Inverse ☆

a)



① $7 - 1 = 6$ $\quad$ $6 \div 3 = 2$
$13 - 1 = 12$ $\quad$ $12 \div 3 = 4$
$16 - 1 = 15$ $\quad$ $15 \div 3 = 5$
$31 - 1 = 30$ $\quad$ $30 \div 3 = 10$

b) $y = -2x + 3$

$y \in \{\overset{①}{-3}; \overset{②}{-1}; \overset{③}{7}; \overset{④}{13}\}$

vervang y | substitute y

$y = -2x + 3$

① $-3 = -2x + 3$ $\quad$ ② $-1 = -2x + 3$

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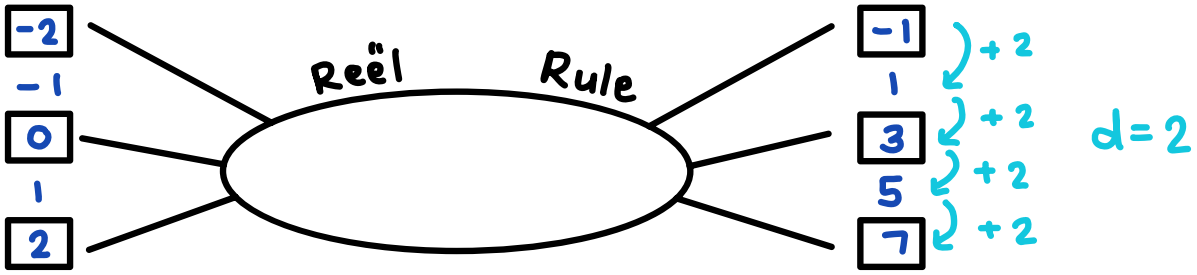
$$2x = +3 + 3$$
$$\frac{2x}{2} = \frac{6}{2}$$
$$x = 3$$

$$2x = 3 + 1$$
$$\frac{2x}{2} = \frac{4}{2}$$
$$x = 2$$

③ $7 = -2x + 3$
$$2x = 3 - 7$$
$$\frac{2x}{2} = \frac{-4}{2}$$
$$x = -2$$

④ $13 = -2x + 3$
$$2x = 3 - 13$$
$$\frac{2x}{2} = \frac{-10}{2}$$
$$x = -5$$

4. Bepaal die Reël / Determine the Rule



Uitset = (inset x d) + c
d = konstante verskil
c = getal wat moet + of − om waar te maak

Output = (Input x d) + c
d = constant difference
c = number you must + or − to make it true

Uitset = (inset x 2) ___

Output = (input x 2) ___

$$-1 = (-2 \times 2) + c$$
$$-1 = -4 + c$$
$$-1 + 4 = c$$
$$c = 3$$