

8.1.3

①

Gr 8 Wiskunde / MathematicsVerhouding + koers / Ratio + Rate1. Verhouding / Ratio :

- Werk dieselfde as breuke
- Vereenvoudig antw'e
- Works like fractions
- Simplify answers

## a) Vereenvoudig / Simplify

$$\frac{4}{8} = \frac{1}{2}$$

$$\div 4 \quad 4 : 8 \quad \div 4$$

$$1 : 2$$

$$\frac{10}{15} = \frac{2}{3}$$

$$\div 5 \quad 10 : 15 \quad \div 5$$

$$2 : 3$$

$$\frac{3}{9} = \frac{1}{3}$$

$$\div 3 \quad 3 : 9 \quad \div 3$$

$$1 : 3$$

$$\frac{25}{100} = \frac{1}{4}$$

$$\div 5 \quad 25 : 100 \quad \div 5$$

$$\div 5 \quad 5 : 20 \quad \div 5$$

$$1 : 4$$

÷ GCF

÷ HCF

Kan dadelik met 25 ook deel

Can divide by 25 immediately

## b) Verdeel in verhouding / Divide into a ratio

• R450 in 2 : 5 : 8

- Maak 2 lyntjies

- 1 vir verhouding

- 1 vir waaroor dit gaan (R)

- Totaal kolom

- Use 2 lines

- 1 For the ratio

- 1 For what it's about (R)

- Total column

Verh 2 : 5 : 8 = 15 Ratio

Geld 2x30 : 5x30 : 8x30 = 450 Money

= R60 = R150 = R240

$$\frac{450}{15} = 30$$

- "One part"

- "Een deel"

- Daar is mans, vrouens en kinders by 'n mark in die verhouding  $2:4:3$ . As daar 414 mense is, hoeveel vrouens is daar?

There are men, women and children at a market in the ratio  $2:4:3$ . How many women are there if there are 414 people in total?

	$M : \overset{V}{W} : \overset{K}{C} = \text{Total}$	
verh	$2 : 4 : 3 = \boxed{9}$	Ratio
Getal	$2 \times 46 : 4 \times 46 : 3 \times 46 = \boxed{414} \div$	Number
	$= 92 \quad = 184 \quad = 138$	

$$\frac{414}{9} = 46$$

$\therefore$  138 Vrouens

138 Women

- In 'n sak is Rooi, blou en groen balle in die verhouding  $3:5:2$ . Indien daar 150 blou balle is, hoeveel balle is in die sak?

In a bag there are Red, blue and green balls in the ratio  $3:5:2$ . If there are 150 blue balls, how many balls are in the bag?

	$R : B : G = \text{Total}$	
verh	$3 : \boxed{5} : 2 = 10$	ratio
balle	$3 \times 30 : 5 : 2 \times 30 = 10 \times 30$	balls
	$= 90 \quad \left( \frac{150}{5} = 30 \right) \quad = 60 \quad = 300$	

$\therefore$  300 Balle in totaal.

300 Balls in total



c) Vermeerder / Verminder / Increase / Decrease

$\times \frac{\text{GROOT}}{\text{klein}}$      $\times \frac{\text{klein}}{\text{GROOT}}$      $\times \frac{\text{BIG}}{\text{small}}$      $\times \frac{\text{small}}{\text{BIG}}$

Dit maak nie saak hoe die verhouding gegee word  
nie  $\rightarrow$  bv R300 in verhouding 2:3

It doesn't matter in what order the ratio is  
given  $\rightarrow$  ex R300 in ratio 2:3

Vermeerder : R300  $\times \frac{3}{2}$  = R450  $\rightarrow$

Verminder : R300  $\times \frac{2}{3}$  = R200  $\rightarrow$

NB!!! Vir % For %

Vermeerder :  
Increase

100 : 100 + %  
bv 20% increase  
vermeerdering  $\times \frac{120}{100}$

Verminder :  
Decrease

100 : 100 - %  
bv 20% decrease  
vermindering  $\times \frac{80}{100}$