



FRACTIONS, FINANCE & BUDGETS

extracted from **The Answer Series** Grade 7 Mathematics 3-in-1 Class Text & Study Guide



Essentials (routine)

Exercise 8

Solutions on p. A152

Calculators should not be used in this exercise.



1. Given: $\frac{1}{4}$; $\frac{2}{5}$; $\frac{6}{25}$; $\frac{7}{20}$; $\frac{153}{500}$; $\frac{43}{200}$

- 1.1 Convert each of these fractions to decimal form.
- 1.2 Arrange the decimal fractions in ascending order.

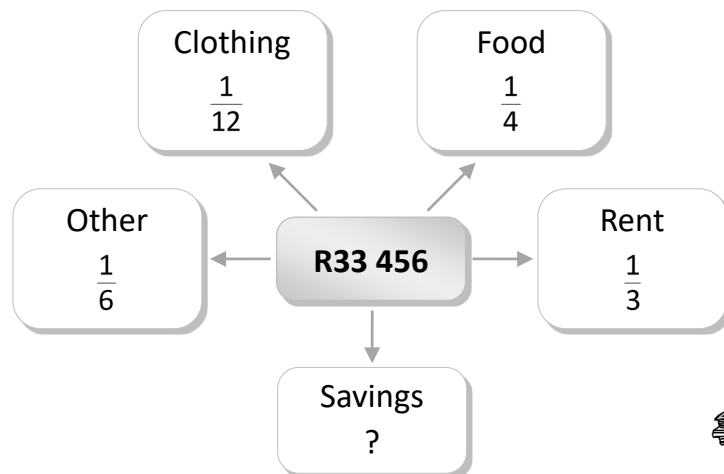
Elevation (complex)



Exercise 18 [link to video](#)

Solutions on p. A131

2. Fez has R33 456 per month to cover his budgeted expenses. He is committed to saving the same amount each month. If he overspends on food, he spends less on clothes so that he can afford to put the same amount of money into his savings.



2.1 How much money does Fez spend on rent each month?

2.2 Last month Fez spent R8 500 on food.

2.2.1 Did Fez keep to his food budget?

2.2.2 If your answer to 2.2.1 is no, then calculate by how much Fez under or overspent on food.

2.2.3 Determine the total amount he could spend on clothes last month.

2.3 What fraction of Fez's budgeted expenses are allocated to his savings each month?

Extension (problem solving)



Exercise 29 [link to video](#)

Solutions on p. A145

4. Nonhlanhla bought a tennis racquet on a sale for R2 475. It was marked down by 25%.

4.1 How much money did she save by waiting for the sale and not buying it at its original price?

4.2 What was the original price of the racquet?



Essentials (routine)

Exercise 8

Learner Book Part 1, p. 152

$$1.1 \quad \frac{1}{4} = \frac{1}{4} \times \frac{25}{25} = \frac{25}{100} = 0,25$$

$$\frac{2}{5} = \frac{2}{5} \times \frac{2}{2} = \frac{4}{10} = 0,4$$

$$\frac{6}{25} = \frac{6}{25} \times \frac{4}{4} = \frac{24}{100} = 0,24$$

$$\frac{7}{20} = \frac{7}{20} \times \frac{5}{5} = \frac{35}{100} = 0,35$$

$$\frac{153}{500} = \frac{153}{500} \times \frac{2}{2} = \frac{306}{1\,000} = 0,306$$

$$\frac{43}{200} = \frac{43}{200} \times \frac{5}{5} = \frac{215}{1\,000} = 0,215$$



1.2 0,215 ; 0,24 ; 0,25 ; 0,306 ; 0,35 ; 0,4 (ascending order)



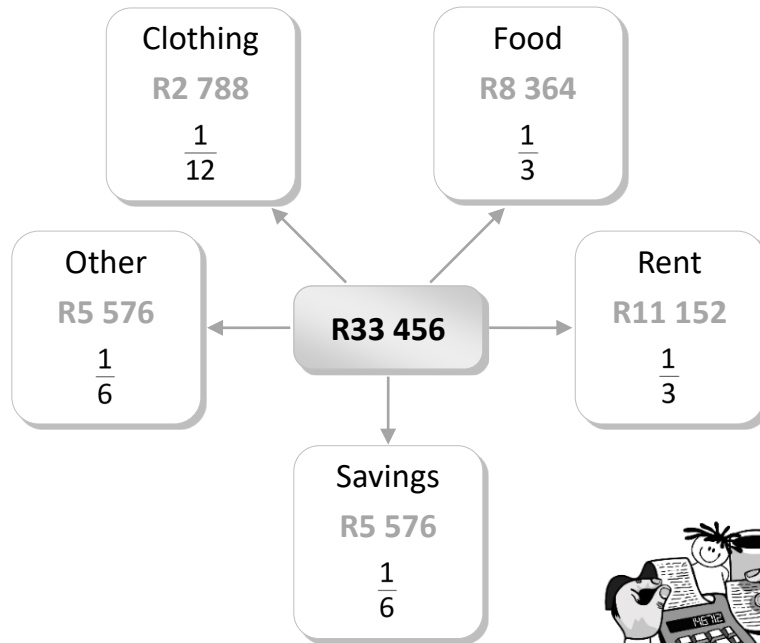
Elevation (complex)

Exercise 18

Learner Book Part 1, p. 126

2.

Monthly Budget



$$2.1 \quad \frac{1}{3} \times 33\,456 = R11\,152$$

\therefore Fez spends R11 152 on rent each month.

2.2.1 Amount spent on food = R8 500

$$\text{Amount budgeted for food} = \frac{1}{4} \times 33\,456 = R8\,364$$

\therefore Fez did not keep to his food budget.

$$2.2.2 \quad R8\,500 - R8\,364 = R136$$

\therefore Fez overspent on food by R136.

2.2.3 He will have R136 less to spend on clothes.

$$\frac{1}{12} \times 33\,456 - 136 = 2\,788 - 136 = R2\,652$$

\therefore the total amount Fez could spend on clothing is R2 652.

Option 1 (work with money)

$$\begin{aligned} \text{Rent} + \text{Food} + \text{Clothing} + \text{Other} \\ &= 11\,152 + 8\,364 + 2\,788 + 5\,576 \\ &= R27\,880 \end{aligned}$$

$$\begin{aligned} \text{Savings} &= R33\,456 - R27\,880 \\ &= R5\,576 \end{aligned}$$

$$\frac{\text{savings}}{\text{monthly amount}} = \frac{5\,576}{33\,456} = \frac{1}{6}$$

Option 2 (work with fractions)

$$\begin{aligned} \text{Rent} + \text{Food} + \text{Clothing} + \text{Other} \\ &= \frac{1}{3} + \frac{1}{4} + \frac{1}{12} + \frac{1}{6} \\ &= \frac{1}{3} \times \frac{4}{4} + \frac{1}{4} \times \frac{3}{3} + \frac{1}{12} + \frac{1}{6} \times \frac{2}{2} \\ &= \frac{4 + 3 + 1 + 2}{12} \\ &= \frac{10 \div 2}{12 \div 2} \\ &= \frac{5}{6} \\ 1 - \frac{5}{6} &= \frac{6}{6} - \frac{5}{6} = \frac{1}{6} \end{aligned}$$

\therefore $\frac{1}{6}$ of Fez's budgeted expenses are allocated to his savings.



Extension (problem solving)

Exercise 29

Learner Book Part 1, p. 143

4. Option 1 (working back to 1%)

4.1 The discount is 25%.

The price paid represents 75% of the original price.

$$75\% \text{ of the price} = \text{R}2\,475$$

$$1\% \text{ of the price} = \text{R}2\,475 \div 75 = \text{R}33$$

$$25\% \text{ of the price} = 25 \times \text{R}33 = \text{R}825$$

\therefore Nonhlanhla saved R825 by waiting for the sale.

4.2 The original price of the racquet

$$= 100 \times 1\% \text{ of the price}$$

$$= 100 \times \text{R}33$$

$$= \text{R}3\,300$$



Option 2 (thinking outside the box)

4.1 The discount is 25%, which is $\frac{1}{4}$ of the original price.

The price paid is 75%, or $\frac{3}{4}$ of the original price.

$$25\% \text{ of the price is } \text{R}2\,475 \div 3 = \text{R}825$$

\therefore Nonhlanhla saved R825 by waiting for the sale.

4.2 The original price of the racquet

$$= \text{amount saved (discounted amount)} + \text{amount paid (discounted price)}$$

$$= \text{R}825 + \text{R}2\,475$$

$$= \text{R}3\,300$$