CALCULATIONS WITH NUMBERS

Checklist

Make sure you:

- Know how to :
    - work with Fractions, Decimals and Percentages
        - Identify parts of fractions and decimals
        - Be able to add, subtract, multiply and divide
        - Increase and decrease by fractions, decimals and percentages
        - Compare using fractions, decimals and percentages
    - Work with Ratios
    - Work with large and small numbers
    - Convert Units of Measurement
    - Convert different currencies given the exchange rate
    - Work with time – calculate lengths of time as well as convert between different units of time
    - Basic Data Handling

- Can explain:
    - How to work out the best value for money
    - Comparing values after converting using foreign exchange
    - Which average is more appropriate to use in different situations

- Able to solve problems using:
    - Ratios
    - Fractions, Decimals and Percentages
    - Foreign Exchange and money
    - Probability

Exam Questions

Question 1

Calculate the following:

1.1 $\left(\frac{3}{4} \times 16\right) + 0,05 \times 235$ (2)

1.2 35% of R2405 (2)

1.3 If $\frac{5}{8}$ of a pizza was eaten, what fraction is left? (2)

Question 2

2.1. Write 3,5 million in full. (1)

2.2. Convert 3,5 metres to centimetres. (2)

2.3. How many bread rolls are there in 4½ dozen? (2)

2.4. Decrease 5kg by 15%. (2)

2.5. Write the decimal 12,125 as a mixed fraction in its simplest form. (2)

2.6. Convert the time 5,3hours to hours and minutes. (3)

2.7. Simplify the ratio 14:182 (2)

Question 3

3.1 If it takes Jo 21 minutes to run 3km. How long will it take him to run 15km if he runs at the same pace?

Give your answer in minutes, and then convert this to hours and minutes. (3)

3.2 There are 3 containers of coffee:

1kg jar = R53,50

2kg jar = R105,50

750g jar = R36,50

What is the cost per gram of each jar of coffee? Which jar is the best value for money? (4)

3.3 Tim wants to buy a song via iTunes. The current exchange rate is £1 = R14,50. The price of a song that

he wants to download in the South African store is R8,99 and the same song in the UK store is £0,79 -

which is the better iTunes store to use? Show your working to validate your answer. (3)

3.4 A chemist needs to make a 360ml mixture made up of ingredient A and ingredient B. The ratio   A : B =

2 : 4. Calculate in millilitres the quantity of each ingredient the chemist will need. (3)

Question 4

Mr Turner works at the Matchbox Company as a foreman. He looks after the machines and is also responsible for checking the quality of the packing of match boxes. Each hour he selects a random sample of ten match boxes and checks that the boxes are filled with matches. The machine packs 32 matches into each match box. The machine is able to pack 1000 match boxes every hour.

4.1   What percentage of the total number of match boxes packed in one hour does Mr Turner select for checking?
(2)

4.2   In a particular sample of 10 boxes Mr Turner finds one box that is only 75% full
    4.2.1   How many matches are in this box? (2)

    4.2.2   What is the probability of Mr Turner selecting this box first from the test sample?
(2)

    4.2.3   What is the probability of Mr Turner selecting this box first from the match boxes packed in the hour?
(2)

    Mr Turner earns R72,50 an hour but is paid a bonus if his team exceed their production and quality targets. Mr Turner worked 35 hours over a long weekend to keep the production running. He was paid a total of R2675 for this effort.

4.3   How much was his bonus? (3)

Test Yourself

Select the most correct answer by writing down the correct letter for each question.

Question 1

Increase R15 000 by 30%

A.   R4 500
B.   R19 500
C.   R10 500
D.   R450 000
E.   R465 000

Question 2

Convert 0,015 metres to centimetres

A.   15 cm
B.   0,00015 cm
C.   1,5 cm
D.   0,15 cm
E.   0,15 cm

Question 3

Four million, five hundred thousand and eighty five is written as:

A.   4 000 585
B.   4 585 000
C.   4 500 085
D.   4 000 000 585
E.   4 000 500 085

Question 4

Convert 245 minutes to hours and minutes

A.   2 hours 45 minutes
B.   4 hours 5 minutes
C.   4 hours 8 minutes
D.   4,083 hours
E.   4 hours 50 minutes

Question 5

Share R1200 in a ratio of 1:2:3

A.   2:4:6
B.   R100: R200: R300
C.   R600: R400: R200
D.   R200: R400 : R600
E.   R100: R100 : R1000