

Mathematical Literacy – Grade 11

- 1. What percentage is represented by the following statements: (Round off to 1 decimal place where necessary)
 - a) $\frac{22}{35}$ for a test.
 - c) 23 of the people in a class of 34 are girls.
 - e) $\frac{182}{210}$ for a test.
 - g) A stadium has filled up 124 300 of its 140 350 seats.

- b) $\frac{17}{18}$ parking spaces are full.
- d) Joe added R3000 onto the price of a car that was originally R24 000.
- f) $\frac{3}{7}$ people have already arrived.
- h) 9 of the 14 cars are white, give the% of cars that aren't white.
- 2. Mr Simpson has a baking shop and he wants to make a master list with the selling price, cost price and mark-up of various products, fill in the missing information.

PRODUCT	COST PRICE (CP)	SELLING PRICE (SP)	MARK UP (MU)
Flour (2.5 Kg)		R22.50	45 %
White sugar (2 Kg)	R 9.40	R 20.00	
Brown Sugar (2 Kg)	R 13.50		52 %
Baking powder (250 g)	R 70.68 per Kg	R28.40	
Cocoa powder (250 g)		R28.00 per 125 g	33%
Vanilla essence (250 ml)	R 33.60		12.5 %

$$CP = \frac{SP}{1 + \left(\frac{MU\%}{100}\right)} \qquad SP = CP + \left(\frac{MU\% \times CP}{100}\right) \qquad MU\% = \left(\frac{SP - CP}{CP}\right) \times 100$$

3. Simplify the following expressions:

a) $\frac{36}{4}$

c) $\sqrt{361}$

e)
$$\frac{2}{3}$$
 of $\sqrt{529}$

- g) $\sqrt[3]{216} \times \frac{\sqrt[5]{243}}{\sqrt[3]{8}}$
- i) $12 \times 2 + (13 5) \div 6 \times 2 \times 3 \times \frac{1}{4}$

- b) $a^2b^3c \times abc^4 \times a.a.b.b.c$
- d) $17 \times 3 + 15 9 \div 3 + 6$
- f) $\frac{3}{4} + \frac{1}{2} \frac{1}{6} + 1\frac{1}{3}$
- h) R 24 + 30%



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- 4. A fruit drink is made by combining one part concentrate to five parts water, answer the questions that follow.
 - a) What is the ratio of concentrate to water?
 - b) According to the ratio, if I use 45 ml of concentrate, how much water must I add to it?
 - c) How much of the fruit drink have I made if I started with 45 ml of concentrate?
 - d) If I have used 2.5 *cups* of concentrate and 12 *cups* of water, will the fruit drink taste right? If not, will it be too strong or too weak?
 - e) I decide to make up a different fruit drink that says that the ratio is 2:7 (concentrate : water) how much concentrate must I add to 1,4 *l* of water?
- 5. The Right-Fit Clothing Company pays workers in its factory R 57.00 per hour. The maximum number of hours a worker may work in one day is 10 *hours* but a worker may only work a maximum of 6 *days* a week. Answer the questions that follow.
 - a) What will a worker earn if he works for 8.5 *hours*?
 - b) What will the worker earn if he decides to work the maximum number of hours in a week?
 - c) What is the shortest amount of time it will take for the worker to earn R 7 410.00?
 - d) A worker needs R 145 to cover his daily expenses and he wants to save R 5 100, how long must he work for to earn the money? (Assume that he works all day, 6 days a week until he has saved up the money and that he doesn't spend money if he does not work.)
- 6. The learners at Happy High School write an english exam. The exam is out of 150 marks and they are given 2 and a half hours to write.
 - a) How long is their exam, in minutes?
 - b) Calculate how fast the learners need to work to ensure that they are finished on time.
- 7. Calculate the following:
 - a) The price of 1 egg if 6 eggs cost R 11.10
 - b) The price of 100g of strawberries if 450 g cost R 55.35
 - c) The price of 1 Kg of flour if 2.5 Kg cost R 20.00
 - d) The price of 1 kg of yoghurt if 600g cost R15.49
 - e) The price of 250 ml of Iced tea if 1.5L cost R18.99
- 8. Convert the following quantities to the desired units.
 - a) $17 \ m \rightarrow km$ b) $R \ 450.89 \rightarrow cents$ c) $22 \ days \rightarrow hours$ d) $300 \ months \rightarrow years$
 - e) $4500 \ seconds \rightarrow hours$ f) $0.4 \ grams \rightarrow kilograms$
 - g) $200 \ l \rightarrow ml$ h) $5 \ weeks \rightarrow hours$



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