

SHARP

Mathematical Literacy – Grade 12

Worksheet 1 – General calculations

1. There are 260 beads in a jar. There are 80 green beads and there are twice as many red beads as there are blue beads. Use this information to answer the questions that follow.
- How many blue beads are there in the jar?
 - How many red beads are there in the jar?
 - What is the ratio of blue beads to red beads to green beads?
 - How many red beads would I have to add if I wanted to keep the ratio the same and I used 100 green beads?
 - How many blue beads would I have to add to keep the ratio the same and I used 100 green beads?
 - What is the total number of beads if I use 100 green beads and I keep the ratio the same.
2. Simplify the following expressions:
- | | |
|---|---|
| a) $42 \div 6 \times 2 + 3 \times 2 \div 8 \times 6$ | b) $\frac{2 \times 3}{xy} \times \frac{5}{6} \times \frac{7y}{2} \div \frac{9}{3x}$ |
| c) $7^3 \times 4^6 \div 2^{11}$ | d) $\frac{\sqrt{256}}{4}$ |
| e) 35 % of (280×3^3) | f) $\frac{3}{4} + \frac{1}{2} - \frac{1}{6} + 1\frac{1}{3}$ |
| g) $q^4ps^7 \times \frac{p^3sqr^2}{p^4} \times r.r.p.r.q.q.s.r.s$ | h) $\frac{3}{7}$ of 21^2 |
| i) $\frac{2}{3} + \frac{5}{8} + \frac{9}{12} - \frac{1}{7}$ | j) $\sqrt[3]{216} \times 11^2 + 24 \div \sqrt[4]{10000}$ |
| k) $\frac{27}{35} \times 100$ | l) $482^4 - 100 \div 10$ |

3. Convert the following quantities to the desired units.

a) $10 \text{ ml} \rightarrow \text{litres}$

b) $3.6 \text{ km} \rightarrow \text{mm}$

c) $50 \text{ grams} \rightarrow \text{kg}$

d) $10\,042 \text{ cents} \rightarrow \text{Rands}$

e) $4 \text{ hours} \rightarrow \text{seconds}$

f) $0.5 \text{ cm} \rightarrow \text{km}$

g) $750 \text{ minutes} \rightarrow \text{hours}$

h) $R23.54 \rightarrow \text{cents}$

i) $3 \text{ years} \rightarrow \text{seconds}$

j) $1.5 \text{ litres} \rightarrow \text{ml}$

4. Ben owns a garden service; he employs various workers to tidy up gardens in his area. Use the information provided to answer the questions that follow.

a) If Ben employs workers and pays them R 80 per hour, how much does he pay to employ all 3 workers for 4 hours?

b) It takes 1.5 hours for 1 worker to tidy up 1 garden, and Ben has 12 gardens to tidy up. How long will it take two workers to complete all the jobs?

c) It cost R 45 to buy the fertiliser and other consumables to tidy up each garden.

Calculate the total cost for tending all 12 gardens. Remember that he uses 2 workers to tidy all the gardens

d) If Ben wants to make a 40% profit for tidying up gardens, what should he charge each person for tidying up their garden?

5. What percentage is represented by the following statements: (Round off to 1 decimal place where necessary)

a) $\frac{9}{19}$ men have beards

(% of men with beards)

b) $\frac{24}{50}$ sweets have been eaten

(% of sweets left over)

c) 7 m^2 out of 43 m^2 have been painted

d) $\frac{26}{40}$ for a test

e) $\frac{146}{158}$ parking spaces are full

(% of empty parking spaces)

f) $\frac{21}{24}$ people have already arrived.

(% of people that have arrived)

g) 14 out of 25 in the class are girls

(% of boys)

h) 10 out of 18 cars are silver

(% of cars that are not silver)

6. Calculate the following:

- a) The cost of 6 bottles of water if 1 bottle cost R 2.88
- b) The cost of 400g of feta cheese if 100g cost R 8.50
- c) The price of 1 avocado if 4 avocados cost R 17.00
- d) The cost of 1 Kg of baking powder if 125g cost R 9.20
- e) The price of 1 lemon if 4 lemons cost R 10.56
- f) The price of 1 can of coke if 24 cans cost R 122.40
- g) The cost of 12 Kg of pears if 1.5 Kg cost R 12.00

7. The learners from Excellent School have received their exam time table; use the time table below to answer the questions that follow.

	Session 1			Session 2		
Date	Subject	Time allocation	Mark allocation	Subject	Time allocation	Mark allocation
Mon 3 June	Geography P1	3 hours	180	Geography Paper 2	1 hour 30 min	45
Tues 4 June	Economics/ Visual art theory	3 hours 3 hours	300 150	CAT practical	2 hours	100
Wed 5 June	isiZulu P1/ Afrikaans P1	2 hours 2 hours	100 70	EGD P1	3 hours	80
Thurs 6 June	History	3 hours	300	English P2	2 hours 30 min	80
Fri 7 June	isiZulu P2/ Afrikaans P2	2 hours 2 hours 15 min	120 80	English P3	2 hours	60
Mon 10 June	Mathematics P1/ Math Literacy P1	3 hours 2 hours	180 150	Visual art PRAC	3 hours	Total 300

Tues 11 June	English P1	2 hours	120	Life Orientation	1 hour 30 min	100
Wed 12 June	Mathematics P2/ Math Literacy P2	3 hours 2 hours 15 min	180 160	CAT theory	3 hours	180
Thurs 13 June	Consumer studies/ Accounting	3 hours 3 hours	150 180	EGD P2	3 hours	80
Fri 14 June	Physical science P1	2 hours	120	Visual art PRAC	3 hours	Total 300
Tues 18 June	Business studies	3 hours	300			
Wed 19 June	Visual art PRAC	4 hours 30 min	Total 300	Visual art PRAC	3 hours 30 min	Total 300
Thurs 20 June	Physical science P2	2 hours	120	Visual Art PRAC	2 hours 30 min	Total 300
Fri 21 June	Life Science	2 hours 30 min	150			

- a) How many hours does a student spend on their visual art practical?
- b) Calculate how many marks a learner has to complete in every minute of their business studies paper, assuming they want to finish in the last minute.
- c) The geography teacher told the class that their term mark is based only on their exam marks. Can you come up with a formula that the teacher would use to calculate this geography term mark?
- d) Calculate the total number of hours a learner would spend writing exams if a learner took the following subjects: English, isiZulu, mathematical literacy, geography, EGD, CAT and Life Orientation?
- e) A learner completed only 80% of their accounting exam paper, how many marks did they leave out?