

SHARP

Worksheet 1 Memorandum – General calculations

Mathematical Literacy – Grade 12

1. a) $x = \text{number of blue beads}$
 $3x = 260 - 80$
 $x = 60 \text{ blue beads}$
- b) $y = \text{number of red beads}$
 $y = 260 - 80 - 60$
 $y = 120 \text{ red beads}$
- c) $60 : 120 : 80 \rightarrow 3 : 6 : 4$
- d) green : red $\rightarrow 4 : 3$
 $100 \times \frac{6}{4} = 150 \text{ red beads}$
- e) green : blue $\rightarrow 4 : 3$
 $100 \times \frac{3}{4} = 75 \text{ blue beads}$
- f) $100 \text{ green beads} + 150 \text{ red beads} + 75 \text{ blue beads} = 325 \text{ beads}$
2. a) $42 \div 6 \times 2 + 3 \times 2 \div 8 \times 6 = 18\frac{1}{2}$
- b) $\frac{2 \times 3}{xy} \times \frac{5}{6} \times \frac{7y}{2} \div \frac{9}{3x} = 5\frac{5}{6}$
- c) $7^3 \times 4^6 \div 2^{11} = 686$
- d) $\frac{\sqrt{256}}{4} = \frac{16}{4} = 4$
- e) $35\% \text{ of } (280 \times 3^3) = 2\,646$
- f) $\frac{3}{4} + \frac{1}{2} - \frac{1}{6} + 1\frac{1}{3} = 2\frac{5}{12}$
- g) $q^4 p s^7 \times \frac{p^3 s q r^2}{p^4} \times r.r.p.r.q.q.s.r.s$
 $= p q^7 r^6 s^{10}$
- h) $\frac{3}{7} \text{ of } 21^2$
 $= 189$
- i) $\frac{2}{3} + \frac{5}{8} + \frac{9}{12} - \frac{1}{7}$
 $= 1\frac{151}{168}$
- j) $\sqrt[3]{216} \times 11^2 + 24 \div \sqrt[4]{10000}$
 $= 6 \times 121 + 24 \div 10 = 728\frac{2}{5}$
- k) $\frac{27}{35} \times 100 = 77.14 \text{ OR } 77\frac{1}{7}$
- l) $482^4 - 100 \div 10 = 232\,314$
3. a) $10 \text{ ml} \div 1000 \rightarrow 0.01 \text{ litres}$
- b) $3.6 \times 1000 \times 1000 \rightarrow 3\,600\,000 \text{ mm}$
- c) $50 \text{ grams} \div 1000 \rightarrow 0.05 \text{ kg}$
- d) $10\,042 \text{ cents} \div 100 \rightarrow R\,100.42$
- e) $4 \text{ hours} \times 60 \times 60 \rightarrow 14\,400 \text{ seconds}$
- f) $0.5 \div 100 \div 1000 \rightarrow 0.000005 \text{ km}$
- g) $750 \text{ minutes} \div 60 \rightarrow 12.5 \text{ hours}$
 $12 \text{ hours } 30 \text{ minutes}$
- h) $R23.54 \div 100 \rightarrow 2\,354 \text{ cents}$
- i) $3 \times 365 \times 24 \times 60 \times 60 \rightarrow \text{seconds}$
 $94\,608\,000 \text{ seconds}$
- j) $1.5 \text{ litres} \times 1000 \rightarrow 1500 \text{ ml}$
4. a) $3 \text{ workers} \times R\,80 \times 4 \text{ hours} = R\,960$
- b) $1.5 \text{ hours} \times 12 \text{ gardens} \div 2 = 9 \text{ hours for 2 workers to complete the jobs}$

- c) $R\ 45 \times 12 = R\ 540$
 $9\ \text{hours} \times 2\ \text{workers} \times R\ 80 = R\ 1\ 440$
 $\therefore \text{Total cost} = R\ 540 + R\ 1\ 440 = R\ 1\ 980$
- d) $((1.5\ \text{hours} \times 80) + R\ 45) + 40\% = R\ 231$

5. a) $\frac{9}{19} \times 100 = 47.37\ \%$ b) $\frac{50-24}{50} \times 100 = 52\ \%$
 c) $\frac{7}{43} \times 100 = 16.28\ \%$ d) $\frac{26}{40} \times 100 = 65\ \%$
 e) $\frac{158-146}{158} \times 100 = 7.59\ \%$ f) $\frac{21}{24} \times 100 = 87.5\ \%$
 g) $\frac{25-14}{25} \times 100 = 44\ \%$ h) $\frac{18-10}{18} \times 100 = 44.44\ \%$

6. a) $R\ 2.88 \times 6 = R\ 17.28$ b) $R\ 8.50 \times 4 = R\ 34.00$
 c) $R\ 17.00 \div 4 = R\ 4.25$ d) $R\ 9.20 \times 8 = R\ 73.60$
 e) $R\ 10.56 \div 4 = R\ 2.64$ f) $R\ 122.40 \div 24 = R\ 5.10$
 g) $\frac{12}{1.5} \times R\ 12.00 = R\ 96.00$

7. a) *Hours spent on visual art prac = 3 hours (10 June) + 3 hours (14 June) + 4 hours 30 min(19 June am) 3 hours 30 min(19June pm) + 2 hours 30 min(20 June) = 16 hours 30 minutes spent on the visual art prac*

- b) $300\ \text{marks} \div (3 \times 60) = 1.67\ \text{marks per minute}$

- c) $\frac{x+y}{180+45} \times 100 = \text{learners term mark}$ Assume x = the mark obtained for paper 1
 $\frac{(x+y)}{225} \times 100$ y = the mark obtained for paper 2

- d) Total hours = 2h (English P1) + 2h 30 min (English P2) + 2h (English P3) + 2h (isiZulu P1) + 2h (isiZulu P2) + 2h (math lit P1) + 2h 15 min (math lit P2) + 3h (geography P1) + 1h 30 min (geography P2) + 3h (EGD P1) + 3h (EGD P2) + 2h (CAT Prac) + 3h (CAT theory) + 1h 30 min (LO) = 31 hours 45 minutes

- e) $180\ \text{marks} \times \frac{80}{100} = 144\ \text{marks done} \therefore 180 - 144 = 36\ \text{marks left out}$