

UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER - 2016 : B.ED PRIMARY
COURSE NUMBER : PE**C**100
COURSE NAME : BASIC NUMERICAL SKILLS
TIME ALLOWED : 3 HOURS

- INSTRUCTIONS
1. ALL QUESTIONS ARE **COMPULSORY**
 2. ANY PIECE OF MATERIAL WHICH IS NOT FOR MARKING PURPOSES MUST BE **CROSSED OUT** CLEARLY

THIS PAPER MUST NOT BE OPENED UNTIL PERMISSION IS GIVEN BY THE INVIGILATOR.

Additional material - 1 graph paper.

1 (a) Write each of the following correct to the required level of accuracy;

(i) 34.681 to the nearest tenth [1]

(ii) 7.0134 to two significant figures [1]

(iii) $\frac{7}{9}$ as a decimal fraction correct to two decimal places. [2]

(b) By first estimating these numbers to one significant figure, estimate

$\frac{221.9 \times 478.3}{956.83}$ to one significant figure. [4]

2 (a) list all the factors of 24 [3]

(b) Which of the not prime numbers

1, 2, 3, 4, 5, 6, 7 [3]

(c) List the first four triangle numbers [4]

(d) Express 63 as a product of its prime factors [3]

3 Work out the following

(a) $3 - ^{-}4 + 5 \times ^{-}2$, [2]

(b) $\frac{3}{5} + \frac{6}{7}$ [2]

(c) $44.03 - 3.567$ [2]

(d) $0.432 \div 0.06$ [3]

4 (a) Simplify the following;

(i) $2(x + 3y) - 5x - 7y$ [2]

(ii) $(x + 2y)(3x + 5y)$ [2]

(iii) $\frac{2a}{5} + \frac{3a}{4}$ [3]

(b) Solve the following equations

(i) $6 + \frac{2y}{4} = 5$ [3]

(ii) $\frac{2(x+3)}{3} - \frac{3x-1}{4} = \frac{1}{12}$ [4]

(iii) $x^2 - 4x + 12 = 0$. [3]

5 (a) Convert each of the following as indicated

(i) $\frac{1}{8}$ as a percentage [2]

(ii) 45% as a common fraction [2]

(iii) 2500 mg to kg [2]

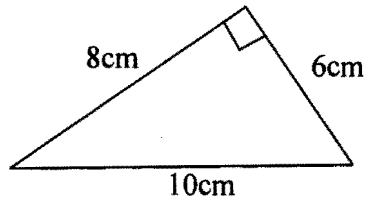
(iv) 0.025 to a fraction in its lowest terms. [2]

(b) Given the distribution 3, 5, 8, 9, 2, 7, 5, 4, 2, 5.

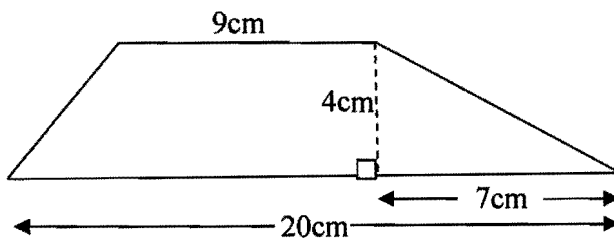
(i) Find the median [2]

(ii) Calculate mean. [2]

- 6 (a) Calculate the area of the triangle in cm^2 [2]



- (b) For the trapezium below,



calculate the area in

- (i) cm^2 [3]
 (ii) m^2 [3]

- (c) A rectangle has an area of 10 cm^2 . If its length is 20 cm and its width is $(x - 2)$, calculate the value of x . [3]

- 7 (a) In a fruit shop, 12 oranges cost E18. How much would 20 oranges cost? [2]

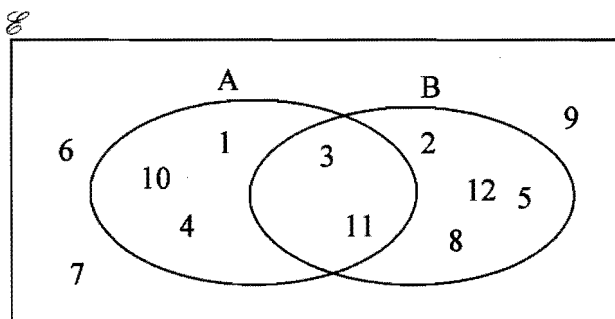
- (b) Mr Masuku gave E900 to his sons Vusi and Banele to share by the ratio 3:2.

- (i) How much will Banele get? [2]
 (ii) What percentage will Vusi get? [2]
 (iii) Their ages are in the same ratio. If Vusi is 15 years old, what is the sum of their ages? [3]

- 8 A distribution is given below represents shoe sizes of some selected boys in a secondary school.

Size	Frequency
7	1
8	4
9	8
10	5
11	2

- (a) How many boys were selected [2]
 (b) State the range of the distribution [1]
 (c) What was the modal size? [1]
 (d) Calculate the mean size [3]
 (e) On a graph paper, draw a bar chart for the distribution [4]
- 9 The Venn diagram below shows the Universal set $\mathcal{U}$, set P and Q. Use the diagram to answer the following questions.



- (a) List the members of the following sets
 (i) $A' \cap B$ [2]
 (ii) $(A \cup B)'$ [2]
 (b) Find $n(A \cup B')$ [2]
 (c) $A \cap B = \{3, 11\}$. Find all subsets of $\{3, 11\}$ [4]