UNIVERSUTY OF ESWATINI

SUPPLEMENTARY EXAMINATION PAPER - 2019 : B.ED PRIMARY

COURSE NUMBER : PED 100

COURSE NAME : BASIC NUMERICAL SKILLS

TIME ALLOWED : 3 HOURS   TOTAL MARKS : 100

IINSTRUCTIONS   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.

1   (a) Work out the following

          (i) $-12 - 4 \times 3 - 5 + 7$ [3]

          (ii) $24.025 + 167.3 - 4.08$ [3]

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

  (b) Calculate

        (i) $5\dfrac{2}{3} + -\dfrac{5}{7}$ [3]

        (ii) $2\dfrac{1}{5} \div 3\dfrac{3}{4}$ [3]

2   (a) Copy and complete the table below

Decimal (two places)	Fraction	Percentage	Nearest tenths
0.05			
	$\dfrac{3}{4}$		

          [6]

  (b) Convert the following

          (i) 0.02 km to mm.   [3]

          (ii) 2500 mg to kg   [3]

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

$$\dfrac{46.8 \times 878}{9.83}$$ to one significant figure.   [4]

3   Some students in a class obtained the following marks in a quiz.

        5   6   9   5   7   3   8   5   9   4

Find

(a) the range   [1]

(b) the mode   [1]

(c) the median   [2]

(d) the mean   [3]

4   (a) Simplify the following

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

        (ii) $\dfrac{4a}{3} - \dfrac{7a+5}{2}$ [3]

    (b) Factorise the following

        (i) $24m - 36mn$ [2]

        (ii) $x^2 + 3x - 4$ [2]

    (c) Express 210 as a product of its prime factors.   [3]

5   Solve the following expressions

    (a) $4 + \dfrac{y}{2} = 13$ [2]

    (b) $\dfrac{x+4}{3} - \dfrac{3-2x}{4} = 5$ [4]

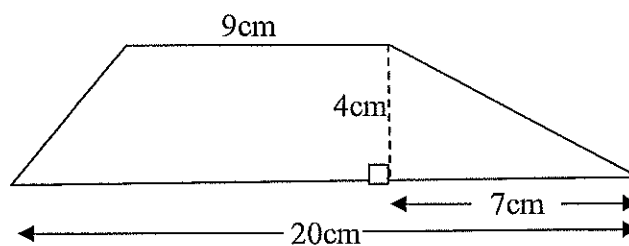   (c) $x^2 + 4x - 12 = 0.$ [3]

    (d) $x^2 - 2x = 15$ [4]

6   (a) Calculate the area in cm^2 [3]

16cm   12cm
20cm
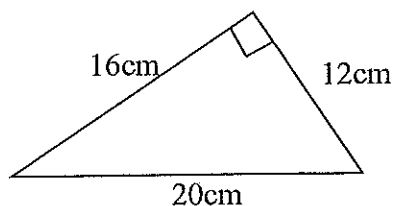
(b) For the trapezium below, calculate the area

(i) cm^2 [3]

(ii) m^2 [3]

9cm

4cm

7cm

20cm

(c) A rectangle has an area of 80 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, 15 oranges cost E18. How much would 20 oranges cost?   [2]
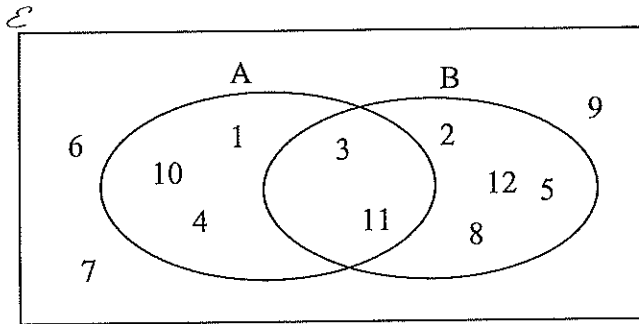
(b) Mrs Dlamini gave E800 to his sons Mandla and Sipho to share by the ratio 3:2.

(i) How much will Sipho get?   [2]

(ii) What percentage will Mandla get?   [2]

(iii) Their ages are in the same ratio. If Mandla is 15 years old,

what is the sum of their ages? [4]

8 The Venn diagram below shows the Universal set $\mathcal{E}$, set P and Q.
Use the diagram to answer the following questions.

(a) List the members of the following sets

    (i) $A^{\prime} \cap B$ [2]

    (ii) $(A \cup B)^{\prime}$ [2]

(b) Find $n(A \cup B^{\prime})$ [2]

(c) Find all subsets of $\{ 1, \ 4, \ 10 \}$ [8]