

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER – 2018: BED I PRIMARY

COURSE NUMBER: PED100

COURSE NAME: BASIC NUMERICAL SKILLS

TIME ALLOWED: 3 HOURS

- INSTRUCTIONS:
1. THIS PAPER IS DIVIDED INTO **EIGHT QUESTIONS**
 2. SECTION A **ALL** QUESTIONS
 3. EACH QUESTION IS WORTH MARKS SHOWN. THE TOTAL MARKS IS 100.
 4. DOCUMENTS REFERRED TO IN SOME OF THE QUESTIONS ARE ATTACHED. IF YOU CAN'T FIND THEM ASK FOR THEM.
 5. ANY PIECE OF MATERIAL WHICH IS NOT FOR MARKING PURPOSES MUST BE **CROSSED OUT** CLEARLY.

SPECIAL REQUIREMENTS: GRAPH PAPER

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

Answer ALL questions

Question 1

- (a) Arrange the following fractions in ascending order of size

$$\frac{5}{8}, \quad \frac{3}{4}, \quad \frac{2}{3}, \quad \frac{1}{6}, \quad \frac{7}{12} \quad [3]$$

- (b) Express 72 as a product of its prime factors [3]

- (c) Classify $\sqrt{5}$ in the hierarchy of numbers [1]

Question 2

- (a) What is the place value of 5 in the numbers below?

(i) 235.087 [1]

(ii) 0.39562 [1]

(iii) 500.5709 [1]

- (b) Rearrange the numbers in 2(a) above to

(i) 2 decimal places, [3]

(ii) 3 significant figures. [3]

Question 3

- (a) Work out the following

(i) $-7 - 9 \times 2 + -5$ [2]

(ii) $546.39 - 34.2 \times 2 + 5.01 - 400$ [3]

- (b) Calculate the following

(i) $\frac{3(-5-7)+12}{3}$ [3]

(ii) $\frac{3}{4} \div \frac{6}{7} \times 3\frac{3}{5}$ [4]

(iii) $5\frac{5}{7} - 4\frac{1}{2} + \frac{3}{14}$ [4]

Question 4

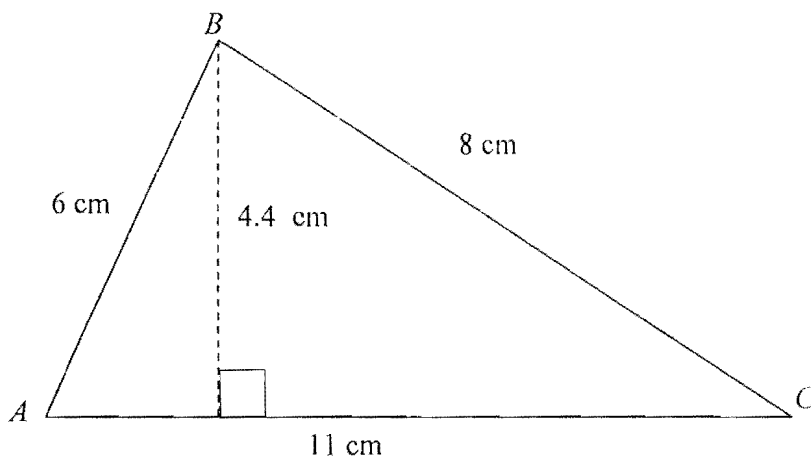
Copy and complete the table below.

Fraction	Decimal (to two decimal places)	Percentage
$\frac{1}{5}$		
	0.65	
		72%

[6]

Question 5

(a) Triangle ABC is given below.



(i) Calculate the area of triangle ABC in cm^2 . [3]

(ii) Write the area of ABC in m^2 . [2]

(b) You are given that the area of a rectangle is 60 cm^2 and that its length is 10 cm and the width is $(x + 2)$. Calculate the value of x . [3]

Question 6

The distribution below shows marks of a mathematics test scored by some Grade V students.

12 10 15 5 17 13 15 10 18 15

Find

(a) the mode [1]

(b) the median [1]

(c) the mean [2]

Question 7

(a) Factorise the following

(i) $8x - 12xy,$ [1]

(ii) $x^2 - 4x - 12$ [2]

(b) Simplify

(i) $2a - 4b + 3b - 8a + 6b$ [2]

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

(c) Solve the following equations

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

(ii) $x^2 - 9x = -18$ [4]

(iii) $x^2 - 49 = 0$ [3]

Question 8

Given the Universal set $\mathcal{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$ and also that

$A = \{2, 4, 5, 6, 8\}$

$B = \{\text{prime numbers}\}$

(a) List set B [2]

(b) Draw a Venn diagram to illustrate the information above. [4]

(c) List all the subsets of A which 3 elements [4]

Question 9

Answer the whole of this question on graph paper provided.

- (a) Using a scale of 1 cm to 1 unit on both axis, draw and label an x and y -axis from 0 to 10 and 0 to 12 respectively [4]
- (b) Plot and label the points A(1, 10), B(3, 2) and C(9, 2) [3]
- (c) A fourth point D is plotted such that the ABCD is a parallelogram. Plot point D and join the points [3]
- (e) The diagonals of ABCD meet at K
Write down the coordinates of K [2]
- (d) Calculate the area of the parallelogram in
- (i) cm^2 [4]
- (ii) m^2 [4]

END OF QUESTION PAPER