

**WASSCE / WAEC MAY / JUNE 2015 GENERAL / CORE MATHEMATICS PAPER 2
(THEORY)**

Visit www.Larnedu.com for more WASSCE / [WAEC past questions](#).

S4022 June
WASSCE 2015
GENERAL
MATHEMATICS/
MATHEMATICS
[CORE] 2

2

2½ hours

Name:

Index Number:

THE WEST AFRICAN EXAMINATIONS COUNCIL

West African Senior School Certificate Examination

GENERAL MATHEMATICS/MATHEMATICS [CORE] 2

June 2015

[100 marks]

2½ hours

*Write your **name** and **index number** in the spaces provided at the top right-hand corner of this booklet.*

*Answer **ten** questions in all; **all** the questions in Section A and **five** questions from Section B.*

*In **each** question, all necessary details of working, including rough work, **must** be shown with the answer.*

Give answers as accurately as data and tables allow.

Graph papers are provided for your use in the examination.

The use of non-programmable, silent and cordless calculator is allowed.

WASSCE / WAEC MAY / JUNE 2015 GENERAL / CORE MATHEMATICS PAPER 2
(THEORY)

Visit www.Larnedu.com for more WASSCE / WAEC past questions.

2

SECTION A

[40 marks]

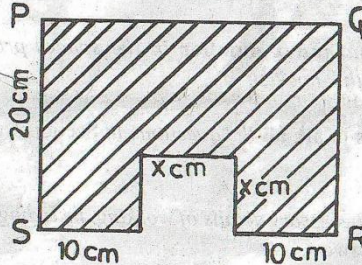
Answer all the questions in this section.

All questions carry equal marks.

1. (a) Without using Mathematical tables or calculators, simplify:
 $3\frac{4}{9} \div (5\frac{1}{3} - 2\frac{3}{4}) + 5\frac{9}{10}$.
- (b) A number is selected at random from each of the sets $\{2, 3, 4\}$ and $\{1, 3, 5\}$. Find the probability that the sum of the two numbers is greater than 3 and less than 7.

2. (a) Solve the inequality: $4 + \frac{3}{4}(x+2) \leq \frac{3}{8}x + 1$.

(b) **SOURCE: WWW.LARNEDU.COM**



The diagram shows a rectangle $PQRS$ from which a square of side x cm has been cut. If the area of the shaded portion is 484 cm^2 , find the values of x .

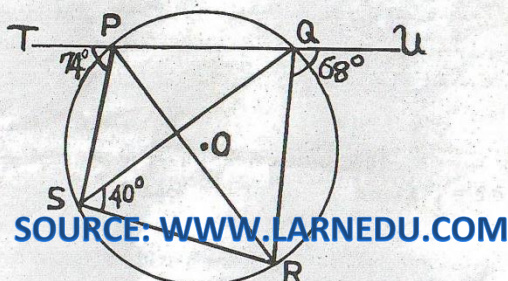
3. (a) The ratio of the interior angle to the exterior angle of a regular polygon is $5 : 2$. Find the number of sides of the polygon.

**WASSCE / WAEC MAY / JUNE 2015 GENERAL / CORE MATHEMATICS PAPER 2
(THEORY)**

Visit www.Larnedu.com for more WASSCE / WAEC past questions.

3

(b)



The diagram shows a circle $PQRS$ with centre O , $\angle UQR = 68^\circ$, $\angle TPS = 74^\circ$ and $\angle QSR = 40^\circ$. Calculate the value of $\angle PRS$.

4. (a) By how much is the sum of $3\frac{2}{3}$ and $2\frac{1}{5}$ less than 7?
- (b) The height, h m, of a dock above sea level is given by $h = 6 + 4 \cos (15p)^\circ$, $0 < p < 6$.
Find:
(i) the value of h when $p = 4$;
(ii) correct to two significant figures, the value of p when $h = 9$ m.
5. A trapezium $PQRS$ is such that $PQ \parallel RS$ and the perpendicular from P to RS is 40 cm. If $|PQ| = 20$ cm, $|SP| = 50$ cm and $|SR| = 60$ cm, calculate, correct to 2 significant figures, the:
(a) area of the trapezium;
(b) $\angle QRS$.

WASSCE / WAEC MAY / JUNE 2015 GENERAL / CORE MATHEMATICS PAPER 2
(THEORY)

Visit www.Larnedu.com for more WASSCE / WAEC past questions.

4

SECTION B

[60 marks]

Answer five questions only from this section.

All questions carry equal marks.

6. (a) (i) Illustrate the following statement in a Venn diagram:
 All good Literature students in a school are in the General Arts class.
- (ii) Use the diagram to determine whether or not the following are valid conclusions from the given statement:
- Vivian is in the General Arts class therefore she is a good Literature student;
 - Audu is not a good Literature student therefore he is not in the General Arts class;
 - Kweku is not in the General Arts class therefore he is not a good Literature student.
- (b) The cost (c) of producing n bricks is the sum of a fixed amount, h , and a variable amount y , where y varies directly as n . If it costs GH¢ 950.00 to produce 600 bricks and GH¢ 1,030.00 to produce 1000 bricks,
- find the relationship between c , h and n ;
 - calculate the cost of producing 500 bricks.

7. The table is for the relation $y = px^2 - 5x + q$.

x	-3	-2	-1	0	1	2	3	4	5
y	21	6		-12				0	13

- (a) (i) Use the table to find the values of p and q .
 (ii) Copy and complete the table.
- (b) Using scales of 2 cm to 1 unit on the x -axis and 2 cm to 5 units on the y -axis, draw the graph of the relation for $-3 \leq x \leq 5$.

Visit www.Larnedu.com for more WASSCE / WAEC past questions.

7

13. The table shows the marks scored by some candidates in an examination.

Marks (%)	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
Frequency	7	11	17	20	29	34	30	25	21	6

- (a) Construct a cumulative frequency table for the distribution and draw a cumulative frequency curve.
- (b) Use the curve to estimate, correct to one decimal place, the:
- lowest mark for distinction if 5 % of the candidates passed with distinction;
 - probability of selecting a candidate who scored **at most** 45 %.