3815/1 **BGCSE**

School Number	Candidate Number

Surname and Initials

MATHEMATICS

PAPER 1 (CORE/EXTENDED) 3815/1

Friday 20 MAY 2011 1.00 – 2.30 P.M.

Additional materials:
calculator (not graphing)
geometrical instruments

MINISTRY OF EDUCATION
NATIONAL EXAMINATIONS

BAHAMAS GENERAL CERTIFICATE OF SECONDARY EDUCATION

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.

Write your school number, candidate number, Surname and Initials in the spaces provided at the top of this page.

Answer **ALL** questions in the spaces provided for each question.

ALL working must be shown.

ALL working must be done in blue or black ink, except for drawings, lines and constructions which may be done in pencil.

INFORMATION FOR CANDIDATES

Calculators **[NOT GRAPHING CALCULATORS]** may be used.

Geometrical instruments are required.

The mark for each question, or part question is shown in brackets [ ].

The total number of marks for this paper is 100.

This question paper consists of 17 printed pages and 3 blank pages.

LIVEWORKSHEETS

1. Convert

(a) 64% to a fraction in lowest terms,

Answer: _____ [1]

(b) $7\frac{3}{8}$ to a decimal number,

Answer: _____ [1]

(c) 0.036 to a percentage.

Answer: _____ [1]

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2. Calculate the value of $9^2 - \sqrt[3]{64}$

Answer: _____ [3]

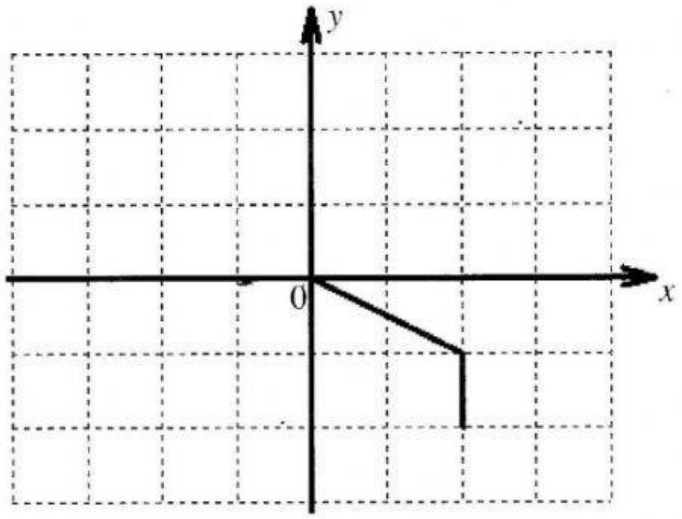
LIVEWORKSHEETS

3. One plant is now 12 cm tall and will grow 2 cm per week. A second plant is now 3 cm tall and will grow 5 cm per week. Calculate the number of weeks it will take for both plants to be the same height.

Answer: _____ [3]

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4. Complete the diagram so that it is symmetrical about **both** the x and the y axes.



[3]

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5. Simplify

$$5 + 4(9 - 4) \times 2$$

Answer: _____ [2]

LIVEWORKSHEETS

6.



$1.59 $2.99

A certain brand of peanut butter comes in jars of two sizes. The larger jar is 32 ounces and sells for $2.99 while the smaller jar is 18 ounces and sells for $1.59.
Calculate and **state** which is the better buy.
(Show working to support your answer.)

Answer: _____ [3]

7.



Linda's flight left Chicago at 8.50 a.m. and arrived in Nassau at 12.35 p.m. the same day.

(a) How long was her flight?

Answer: _____ [2]

It took another $1\frac{1}{2}$ hours before she finally arrived at her home.

(b) At what time did she arrive home?

Answer: _____ [2]

LIVEWORKSHEETS

8.



A beverage set consists of a mug, a coffee pot and a serving plate. The mug costs p dollars. The serving plate costs $5 more than the mug. The coffee pot costs four times as much as the mug.

(a) Complete the table, expressing your answers in terms of p.

Item	Cost
Mug	p
Serving Plate	
Coffee Pot	

[2]

(b) Write the total cost of the set in simplest form in terms of p.

Answer: $ _____ [2]

LIVEWORKSHEETS

9. Write down the value of $(13.64)^2$

(a) exactly, Answer: _____ [1]

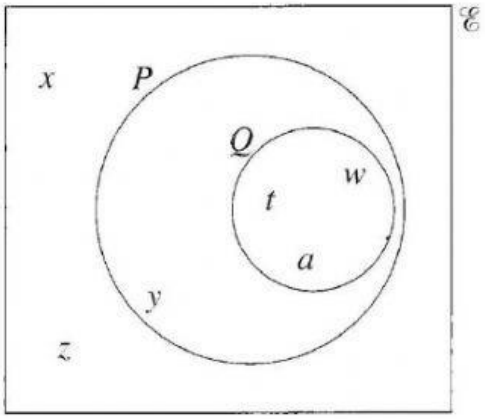
(b) to one decimal place, Answer: _____ [1]

(c) to two significant figures, Answer: _____ [1]

(d) to the nearest hundred. Answer: _____ [1]

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10. The Venn diagram shows the sets P and Q contained in the universal set $\mathscr{E}$.



(a) List the elements in the set

(i) $P \cup Q$, Answer: {_____} [1]

(ii) $P \cap Q$, Answer: {_____} [1]

(iii) Q'. Answer: {_____} [1]

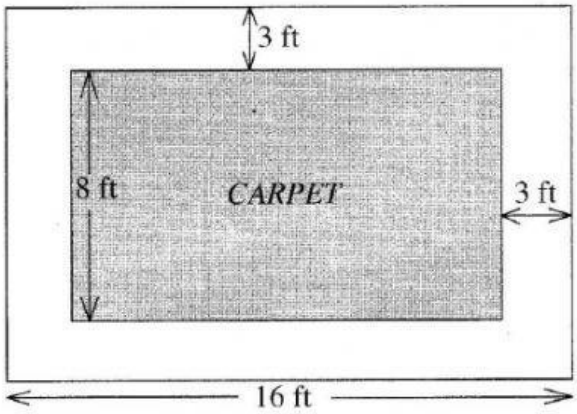
(b) Write down the value of

(i) $n(P)$, Answer: _____ [1]

(ii) $n(P' \cap Q')$. Answer: _____ [1]

LIVEWORKSHEETS

11. A carpet is placed in a rectangular room so that there is a uniform border 3 feet wide around the carpet, as shown. The width of the carpet is 8 ft. The length of the room is 16 ft.



NOT TO SCALE

Calculate (a) the length of the carpet,

Answer: _____ ft [1]

(b) the area of the carpet,

Answer: _____ ft^2 [1]

(c) the width of the room,

Answer: _____ ft [1]

(d) the area of the room,

Answer: _____ ft^2 [1]

(e) the area of the border.

Answer: _____ ft^2 [1]

LIVEWORKSHEETS

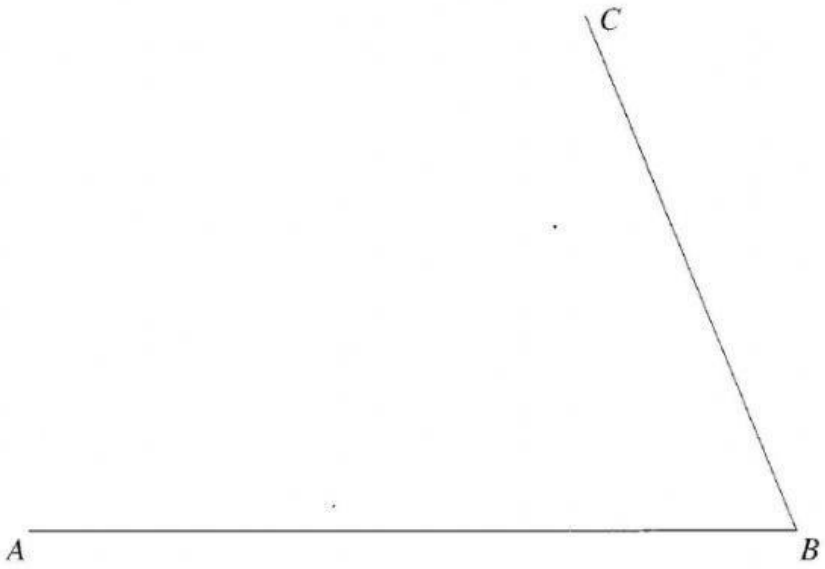
12. (a) Given that $c = 6$ and $d = 12$, calculate the value of $3d - c^2$

Answer: _____ [2]

(b) Solve $3(5 + x) = 17$

Answer: _____ [3]

13.



(a) Using a protractor, measure and write down the size of $\angle B$.

Answer: _____° [1]

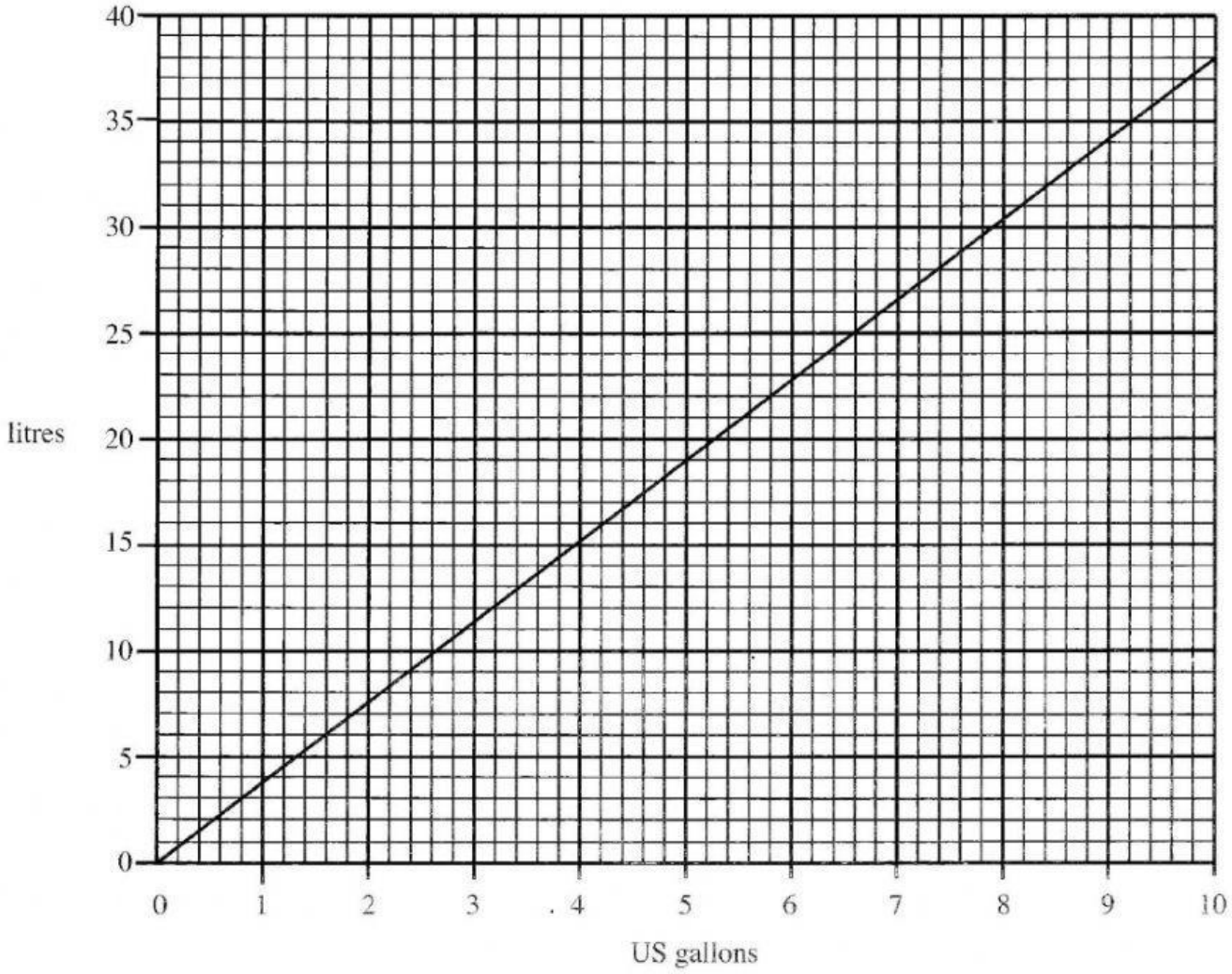
(b) Measure and write down the length of BC in centimetres.

Answer: _____cm [1]

(c) Using a pencil, ruler and pair of compasses only, construct a 60° angle at A.
[3]

LIVEWORKSHEETS

14.



The graph above is used to convert between US gallons and litres. Use it to answer the following questions.

(a) Convert 9 gallons to litres. Answer: _____ litres [1]

(b) Convert 15 litres to gallons. Answer: _____ gallons [1]

(c) Convert 16 gallons to litres. Answer: _____ litres [2]

The cost of 36 litres of gasoline is $49.68

(d) Calculate the cost of 1 gallon of gasoline to the nearest cent.

Answer: $_____ [2]

LIVEWORKSHEETS