

0044/2

BJC

FOR EXAMINER'S USE ONLY	
TOTAL MARKS	

SCHOOL No.	CANDIDATE No.
INITIALS	SURNAME

**MINISTRY OF EDUCATION  
BAHAMAS JUNIOR CERTIFICATE  
EXAMINATION 2013**

**0044 MATHEMATICS**

**PAPER 2 (100 Marks)**

Thursday **30 May 2013** 9:00 A.M.–11:00 A.M.

***INSTRUCTIONS TO CANDIDATES***

Write your school number, candidate number, surname and initials in the spaces at the top of this page.

Answer **ALL** questions in the spaces provided on this question booklet.

**ALL** working must be shown.

The use of calculators, slide rulers, tables or other calculation aids is **NOT** allowed.

**ALL** working is to be done in blue or black ink. Working and answers written in pencil, except constructions and graphs, may not be marked.

**ALL** diagrams are not drawn to scale unless otherwise indicated.

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

This question paper consists of 13 printed pages.

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 **LIVEWORKSHEETS**

Answer ALL questions. Show ALL necessary working.

1. Given that  $n < 3$ , circle the number that does not satisfy the inequality.

5      2      0      -1      [1]

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2. Calculate the value of  $2^3 \times 5$ .

Answer: \_\_\_\_\_ [2]

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3. Write down the next two terms in the sequence

1, 4, 7, 10, \_\_\_\_\_, \_\_\_\_\_ [2]

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4. Write down the numbers between 20 and 31 which have two factors only.

Answer: \_\_\_\_\_ [2]

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5. Express 43.721 correct to

(a) 2 decimal places,

Answer: \_\_\_\_\_ [1]

(b) 2 significant figures.

Answer: \_\_\_\_\_ [1]

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6. Calculate the value of  $27 + 3 \times 4 - 8$ .

Answer: \_\_\_\_\_ [2]

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7.



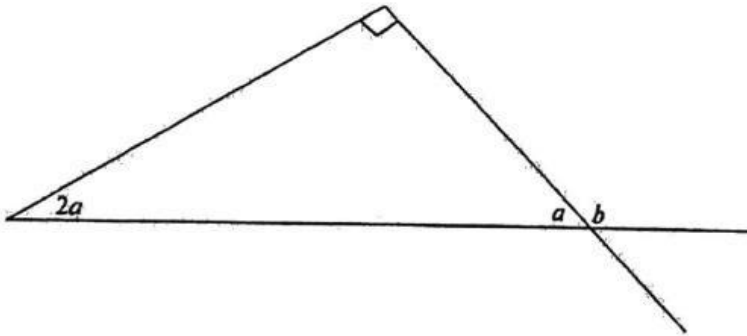
Stan arrived at the airport at 5:20 pm. His plane is due to leave at 8:10 pm.  
How long will Stan have to wait before his plane leaves?

Answer: \_\_\_\_\_ [2]

8. Add the product of 14.6 and 0.4 to the quotient of 3.2 and 8.

Answer: \_\_\_\_\_ [4]

9. Calculate the size of  $\angle a$  and  $\angle b$ .



Answer:  $\angle a$  \_\_\_\_\_ ° [2]

Answer:  $\angle b$  \_\_\_\_\_ ° [2]

10.



- (a) Paul scored 17 out of 20 on a test. Calculate his percentage score.

Answer: \_\_\_\_\_ % [2]

- (b) On another test he scored 75%. If that test was out of 24 marks, how many marks did he receive?

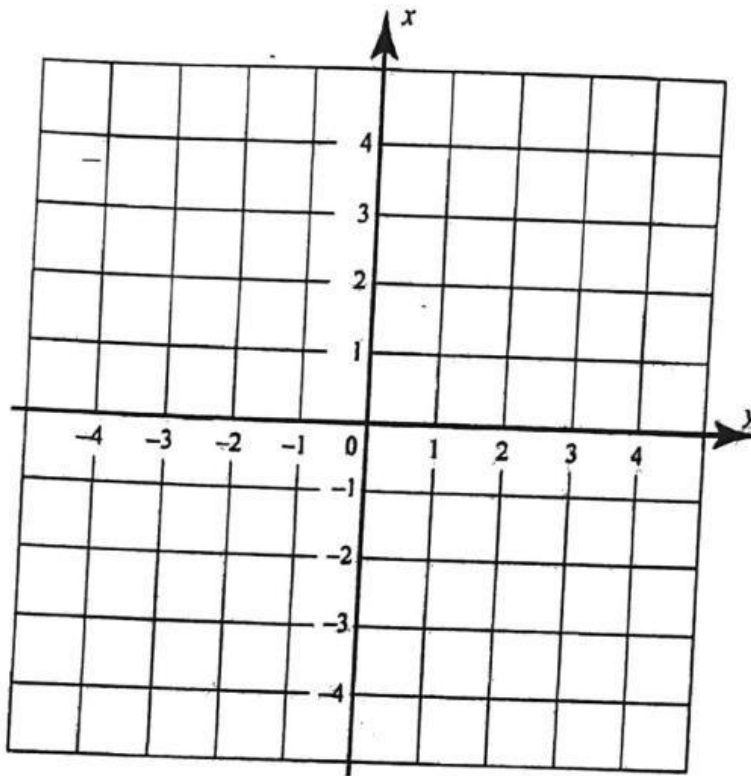
Answer: \_\_\_\_\_ [2]

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11. Evaluate  $3\frac{3}{5} + 2\frac{2}{15}$

Answer: \_\_\_\_\_ [4]

12. Use the grid below to answer this entire question.

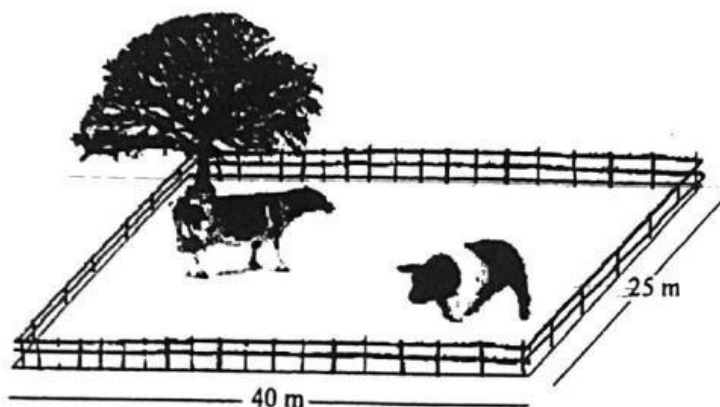


- (a) (i) Draw the line  $y = 3$ . [1]  
 (ii) Draw the line  $x = 4$ . [1]  
 (b) Write the coordinates of the point where the two lines intersect.

Answer: \_\_\_\_\_ [2]

- (c) Shade the region of the graph where  $y > 3$ . [1]

13.



A field measures 25 m by 40 m.

- (a) Calculate the area of the field.

Answer: \_\_\_\_\_ m<sup>2</sup> [2]

A mat of grass covers an area of 9 square metres.

- (b) Calculate the number of grass mats which will be needed to cover the entire field.

Answer: \_\_\_\_\_ mats [2]

Grass mats are sold at \$7 per mat.

- (c) How much would it cost to cover the entire field with grass mats?

Answer: \$ \_\_\_\_\_ [2]

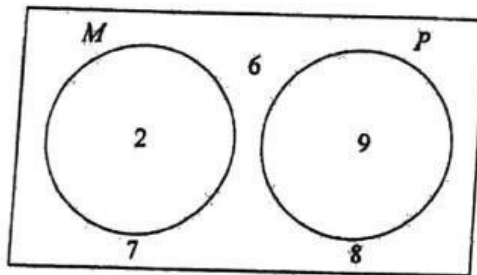
14. (a) Simplify  $4(x - 3) - 3(x - 5)$

Answer: \_\_\_\_\_ [3]

(b) When  $x = 6$  and  $y = 2$ , calculate the value of  $3x + y^2$

Answer: \_\_\_\_\_ [3]

15. Use the Venn diagram below to answer the questions which follow.



List the member(s) of

(i)  $M$ ,

Answer: { \_\_\_\_\_ } [1]

(ii)  $P$ ,

Answer: { \_\_\_\_\_ } [1]

(iii)  $M \cup P$ ,

Answer: { \_\_\_\_\_ } [1]

(iv)  $M \cap P$ ,

Answer: { \_\_\_\_\_ } [1]

(v)  $M^c$ ,

Answer: { \_\_\_\_\_ } [2]

(vi)  $\emptyset$ .

Answer: { \_\_\_\_\_ } [2]

16.



A woman earns \$7.20 per hour when she works a 40 hour week.

- (a) Calculate her weekly pay.

Answer: \$ \_\_\_\_\_ [2]

Overtime is paid at double time.

- (b) Calculate how much is paid for one hour of overtime.

Answer: \$ \_\_\_\_\_ [1]

Last week she worked 46 hours.

- (c) How many hours of overtime did she work?

Answer: \_\_\_\_\_ hrs. [1]

- (d) Calculate her overtime pay.

Answer: \$ \_\_\_\_\_ [2]

- (e) Calculate her total pay for that week.

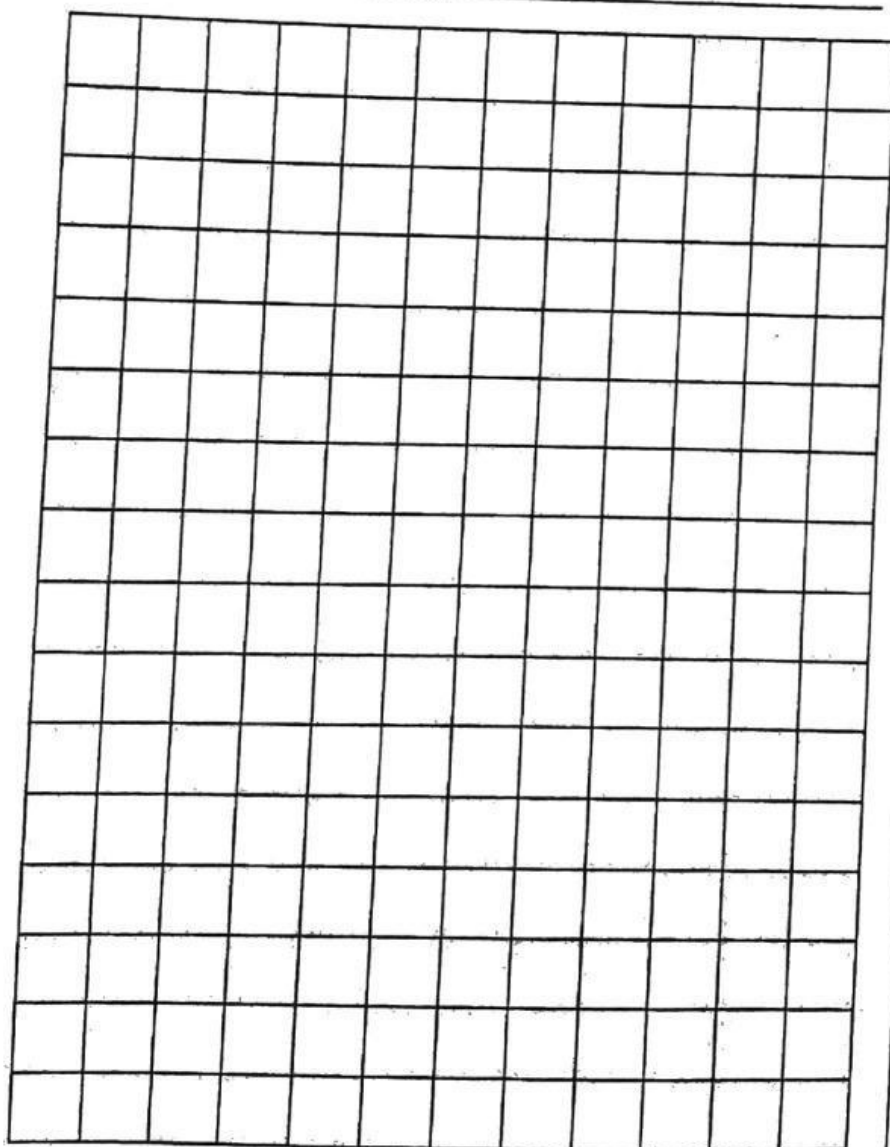
Answer: \$ \_\_\_\_\_ [2]

17. Forty students were asked how many books they read during the holidays. The responses are shown on the table below.

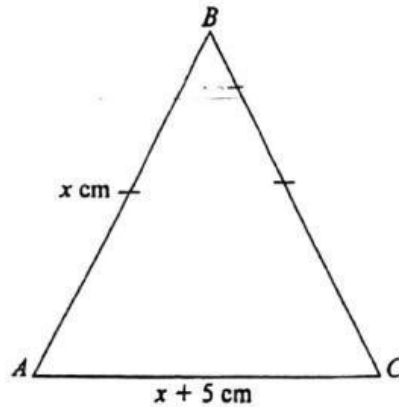
Number of Books Read	Frequency
1	4
2	9
3	5
4	15
5	7

- (a) Use a scale of 2 cm = 1 unit on the  $x$ -axis (number of books) and 1 cm = 1 unit on the  $y$ -axis (frequency) to represent the responses on a vertical bar graph. [7]
- (b) State the modal number of books read.

Answer: \_\_\_\_\_ [1]



18. Triangle  $ABC$  is an isosceles triangle.  $AB$  is  $x$  cm long, and  $AC$  is  $(x + 5)$  cm long.



- (a) State the length of  $BC$ .

Answer: \_\_\_\_\_ cm [1]

The perimeter of the triangle is 32 cm.

- (b) Form an equation for the perimeter of the triangle.

Answer: \_\_\_\_\_ [2]

- (c) Solve your equation formed in part (b).

Answer: \_\_\_\_\_ [3]

- (d) State the length of

$AB =$  \_\_\_\_\_ cm [1]

$AC =$  \_\_\_\_\_ cm [1]

19. (a) Using  $AC$  as the base of your triangle, **construct** triangle  $ABC$  in which  $AB = 6$  cm,  $AC = 10$  cm and  $BC = 8$  cm. [4]
- (b) Bisect the side  $AC$ . [2]
- (c) Bisect angle  $ACB$ . [2]
- (d) Label the point where the two bisectors intersect,  $X$ . [1]
- (e) Measure and write down the length of  $AX$ .

Answer: \_\_\_\_\_ cm [1]

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20.



2 : 3

Bradley and Melissa share \$2000 in the ratio 2 : 3.

(a) How much money does Bradley receive?

Answer: \$ \_\_\_\_\_ [3]

(b) How much does Melissa receive?

Answer: \$ \_\_\_\_\_ [2]

Melissa used her share as a down payment on a dining room set costing \$1,500.

(c) What is the balance she owes on the dining room set?

Answer: \$ \_\_\_\_\_ [1]

She pays the balance in 10 equal payments.

- (d) Calculate the amount of each payment.

Answer: \$ \_\_\_\_\_ [2]

Bradley invests his share at 4% per annum for 2 years simple interest at RR Savings Bank.

- (e) How much interest does he earn?

Answer: \$ \_\_\_\_\_ [3]

- (f) What is the total amount Bradley has in RR Savings Bank after 2 years?

Answer: \$ \_\_\_\_\_ [1]