

B G C S E

MATHEMATICS

EXAMINATION PAPERS

UNDERSTAND • PRACTICE • SUCCEED





THE OPENHANDED CLASSROOM

LEARN MORE. ACHIEVE MORE. SMILE MORE.



BGCSE CLASSES

- ✓ Exam-Focused Learning
- ✓ Past Papers & Strategies
- ✓ Stronger Understanding
- ✓ Better Grades, Brighter Future



[**CLICK HERE**](#)



SAT CLASSES

- ✓ Smart Test Strategies
- ✓ Stronger Scores
- ✓ Time Management Skills
- ✓ College & Scholarship Ready



[**CLICK HERE**](#)



BJC CLASSES

- ✓ Clear, Simple Explanations
- ✓ Focus on Understanding
- ✓ Help That Fits Your Pace
- ✓ Build Confidence, Get Results



[**CLICK HERE**](#)



EXPERT TEACHING.
PROVEN RESULTS.



LEARN SMARTER.
ACHIEVE MORE.



FOCUSED SUPPORT.
REAL RESULTS.



THEOPENHANDEDCLASSROOM:
(242) 426-8891



THE OPENHANDED CLASSROOM

BGCSE FREE SOLUTIONS MANUALS

COMPLETE SOLUTIONS FOR ALL
MAJOR SUBJECTS

- ⦿ MATHEMATICS
- ⦿ ENGLISH LANGUAGE
- ⦿ HISTORY
- ⦿ RELIGIOUS STUDIES
- ⦿ ACCOUNTS
- ⦿ SCIENCES (BIOLOGY, PHYSICS,
COMBINED SCIENCE)
- ⦿ FOREIGN LANGUAGE
(FRENCH AND SPANISH)

UNDERSTAND. PRACTICE. SUCCEED.

[CLICK HERE](#)

EXAM-REAL.

EXAM-PROVEN.

FREE LISTENING COMPREHENSION — AUDIO FILES —



THE **EXACT AUDIO** USED
IN PAST BJC & BGCSE EXAMS



REAL EXAMS

The exact listening comprehension audio from past papers.



REAL PREPARATION

Hear what you'll hear in the real exam.



REAL RESULTS

Practise with purpose. Improve your confidence and performance.

AVAILABLE FOR:



BJC

ENGLISH



BGCSE

**ENGLISH
LANGUAGE**



BJC

FRENCH



BJC

SPANISH



BGCSE

FRENCH



BGCSE

SPANISH

WHY THESE AUDIO FILES MATTER



EXACT AUDIO

The exact recordings used in past BJC & BGCSE exams.



EXAM FAMILIARITY

Get used to the real voices, speed, accents and exam conditions.



STRATEGIC ADVANTAGE

Walk in confident knowing exactly what to expect.



100% FREE

High quality. No cost. Just results.



CLICK HERE

DOWNLOAD • START PRACTISING



**BETTER PREPARATION.
BETTER RESULTS.**

You've got this!

PAST EXAMS. **REAL AUDIO.** BETTER PREP. GREATER CONFIDENCE.

MATHEMATICS

PAPER 3 (CORE/EXTENDED) 3815/3

Monday **26 MAY 2025** 9:00 A.M.–11:30 A.M.

Additional materials:

Calculator (not graphing)

Answer booklet

Geometrical instruments

Graph paper

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 on each **answer booklet**.

Remove the graph paper from the question paper. Write your school number, candidate number, surname and initials, signature and date on the graph paper. Place the graph paper in the answer booklet.

Answer **ALL** questions in the answer booklet.

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 may be used. **[NO GRAPHING CALCULATORS ALLOWED]**.

Tracing paper and geometrical instruments may be used.

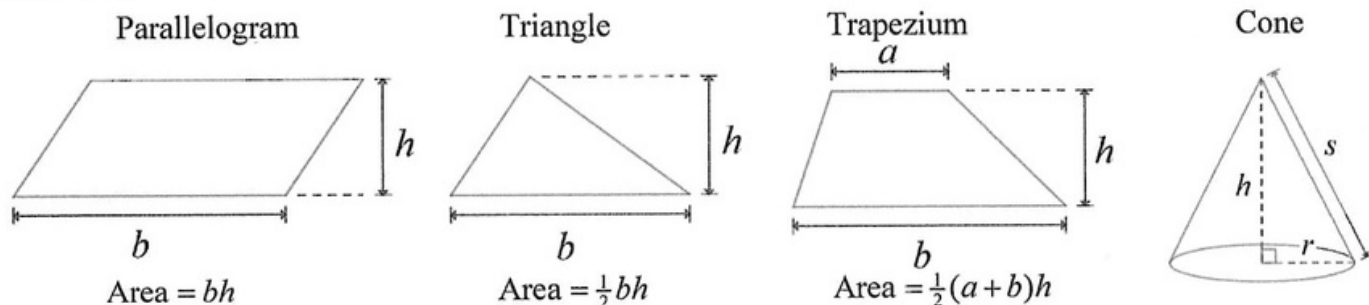
The mark for each question, or part question, is shown in brackets [].

The total number of marks for this paper is 100.

This question paper consists of 8 printed pages.

INFORMATION AND FORMULAE

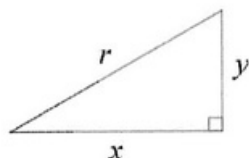
MENSURATION



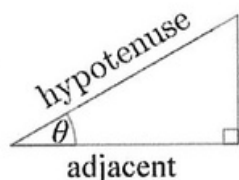
Circle (radius r , diameter d)	Circumference	$2\pi r$ or πd
	Area	πr^2
Cylinder (radius r , height h)	Volume	$\pi r^2 h$
	Area of curved surface	$2\pi r h$
Sphere (radius r)	Volume	$\frac{4}{3}\pi r^3$
	Area of curved surface	$4\pi r^2$
Prism	Volume	area of cross-section $\times$ length
Pyramid	Volume	$\frac{1}{3} \times \text{area of base} \times \text{height}$
Cone (radius r , height h)	Volume	$\frac{1}{3}\pi r^2 h$
	Area of curved surface	πrs where slant height $s = \sqrt{h^2 + r^2}$

TRIGONOMETRY

Right-angled Triangle:

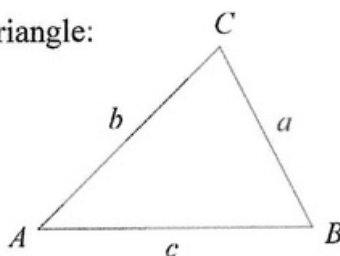


$$r^2 = x^2 + y^2 \quad (\text{Result of Pythagoras})$$



$$\sin \theta = \frac{\text{opposite}}{\text{hypotenuse}}, \quad \cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}}, \quad \tan \theta = \frac{\text{opposite}}{\text{adjacent}}$$

Any Triangle:



In any triangle ABC :

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$\cos A = \frac{b^2 + c^2 - a^2}{2bc}$$

Area of triangle $ABC = \frac{1}{2}ab \sin C$

NUMBER Standard Form is $a \times 10^n$ where $1 \leq a < 10$ and n is an integer.

ALGEBRA The quadratic equation $ax^2 + bx + c = 0$ has solutions $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$.

The determinant of matrix $\begin{pmatrix} a & b \\ c & d \end{pmatrix}$ is $ad - bc$.

The inverse of $\begin{pmatrix} a & b \\ c & d \end{pmatrix}$ is $\frac{1}{ad - bc} \begin{pmatrix} d & -b \\ -c & a \end{pmatrix}$

If $y = ax^n$, then $\frac{dy}{dx} = anx^{n-1}$



1. \$4750 earns \$1068.75 simple interest when invested for 4 years 6 months.
Calculate the rate percent per annum. [3]
-
2. The sum of the interior angles of a regular polygon is $2,340^\circ$.
Determine the size of an exterior angle. [4]
-
3. (a) Find the values of x and y given the operation $\begin{pmatrix} 2 & 3 \\ y & -2 \end{pmatrix} \begin{pmatrix} 1 \\ -4 \end{pmatrix} = \begin{pmatrix} x \\ 2 \end{pmatrix}$. [4]
(b) If the matrix $\begin{pmatrix} 4 & n \\ -1 & 1 \end{pmatrix}$ has a determinant of 10, find the value of n . [2]
-
4. The number of expected views of an influencer's content can be calculated using the formula $v = 1,000 + 3^d$ where v is the number of views and d is the number of days the content is published.
(a) Calculate the expected number of views after 7 days. [1]
(b) Determine how many days it will take for the expected number of views to reach 60,049. [3]
-
5. The sales agents in a store earn \$260 per week plus 8% commission on sales over \$500.
In a certain week one agent sells goods valued at \$1630.
(a) Calculate his gross pay for that week. [3]
After a busy week, another agent's gross pay that week was \$436.
(b) Calculate the value of the goods she sold that week. [4]
-
6. Simplify $\frac{4}{x-3} - \frac{2}{x+1}$ [4]
-

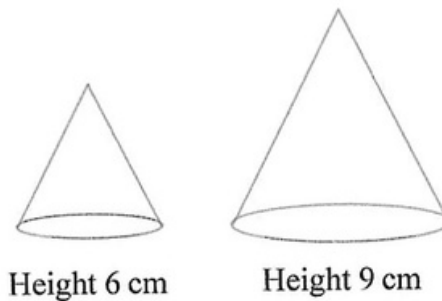
7. (a) Factorise completely
- (i) $2ax - bx + 12ay - 6by$ [3]
- (ii) $x^2 - 36y^2$ [2]
- (b) Hence, simplify $\frac{x^2 - 36y^2}{2ax - bx + 12ay - 6by}$ [2]
-

8. Make m the subject of the formula $b = \frac{1 - am^2}{1 + m^2}$ [5]
-

9. Given the curve with equation $y = 3x^2 - 4x + 1$ and the point $P(2, 5)$ on the curve, find
- (a) the gradient of the curve at P , [2]
- (b) the equation of the tangent to the curve at P . [3]
-

10. The points $(2, y)$ and $(3, 7)$ are on a straight line. If the gradient of the line is 4, find the value of y . [3]
-

11.



Two similar cones are shown.

The surface area of the larger cone is 54 cm^2 .

- (a) Find the surface area of the smaller cone. [2]

The volume of the smaller cone is 24 cm^3 .

- (b) Find the volume of the larger cone. [2]
-



12. Upon getting home, an eccentric teacher uses a spinner to decide which of four activities to do. The probability of the spinner landing on each activity is shown below.

Activity	Probability
Read a book	0.2
Watch TV	0.1
Grade papers	0.4
Do housework	0.3

- (a) Find the probability that the teacher does not watch TV. [1]

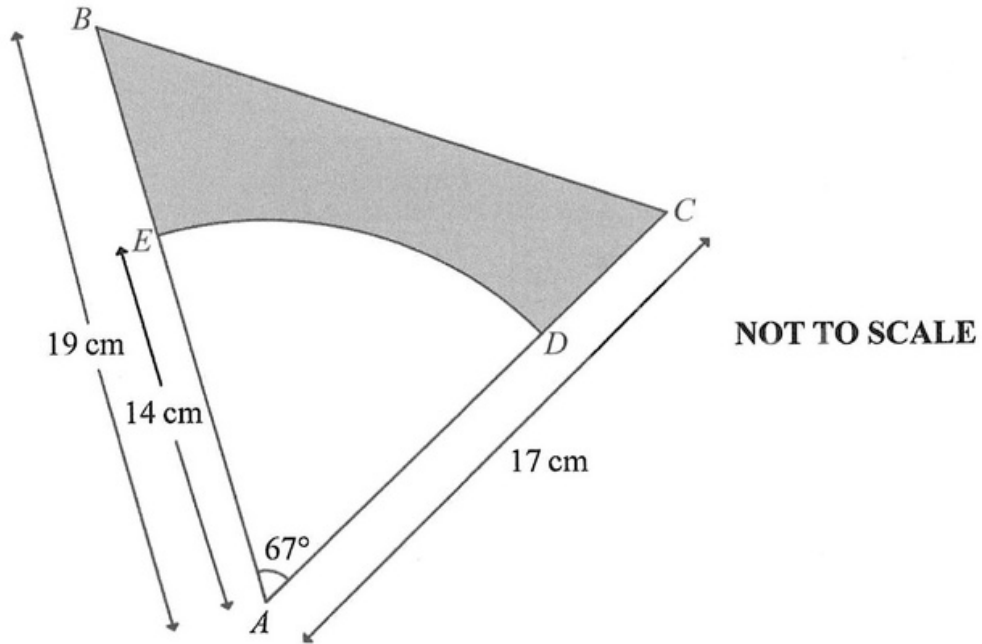
One evening, the teacher decides on two activities using the spinner.

- (b) Find the probability that the teacher
- (i) watches TV then reads a book, [2]
- (ii) grades papers and does housework, in any order. [3]

13. The function $f(x) = \frac{2}{x}$ and the function $g(x) = 2x - 3$.

- (a) Find $gf(4)$. [2]
- (b) Find the values of x for which $f(x) = g(x)$. [5]

14.



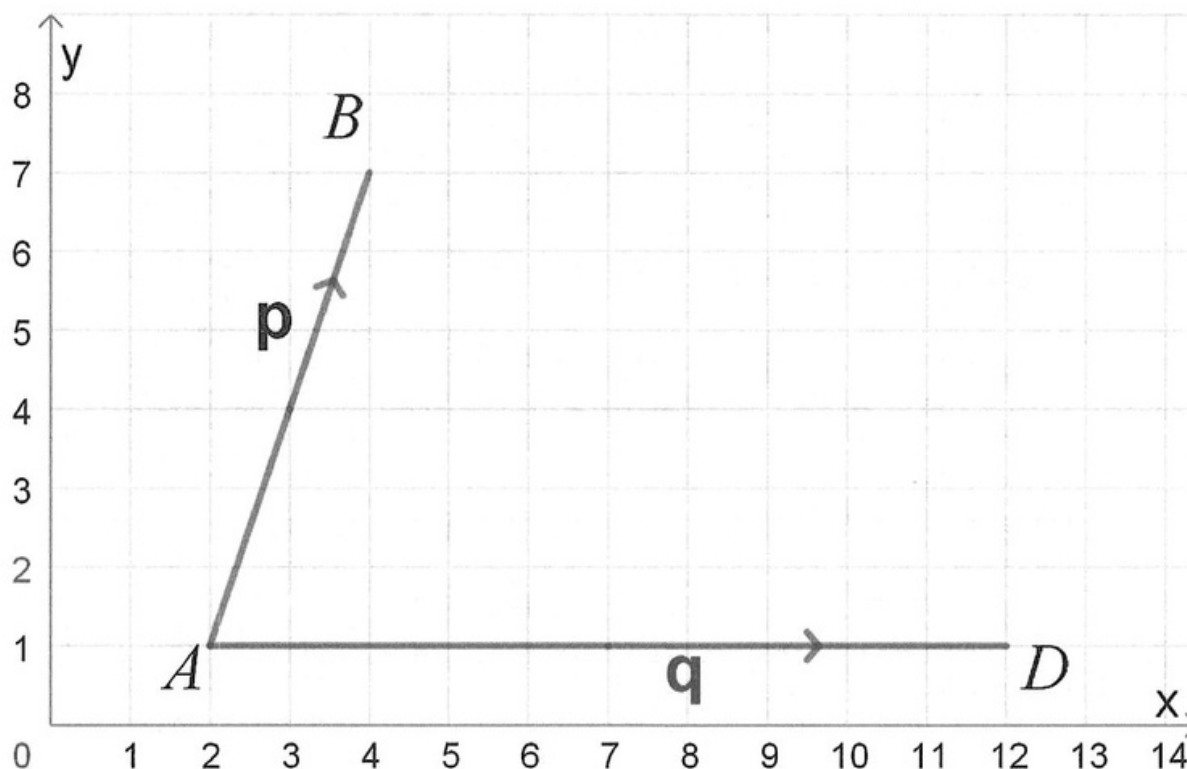
In the diagram, ABC is a triangle and ADE is a sector.

Find correct to the nearest whole number,

- (a) the area of triangle ABC , [2]
 - (b) the area of sector ADE , [2]
 - (c) the area of shaded region $BCDE$, [1]
 - (d) the length BC , [4]
 - (e) the size of angle ABC . [3]
-



15. ANSWER THIS ENTIRE QUESTION ON THE GRAPH PAPER PROVIDED.



The diagram shows a part of a parallelogram $ABCD$.

$AB = \mathbf{p}$ and $AD = \mathbf{q}$.

(a) Using a scale of 1 cm to 1 unit on each axis for $0 \leq x \leq 16$ and $0 \leq y \leq 16$, draw and label the vectors shown onto your graph paper. [3]

(b) Plot the point C and complete the parallelogram $ABCD$. [2]

N lies on BC such that $BN = \frac{2}{5}BC$.

(c) Mark and label the point N . [1]

(d) Write $\overrightarrow{AC}$ in terms of $\mathbf{p}$ and $\mathbf{q}$. [1]

(e) Write $\overrightarrow{ND}$ as a column vector. [1]

Point X lies on AB produced such that $AX = 2AB$.

(f) (i) Mark the point X . [1]

(ii) Write $\overrightarrow{XN}$ in terms of $\mathbf{p}$ and $\mathbf{q}$. [2]

16. **ANSWER THIS ENTIRE QUESTION ON THE GRAPH PAPER PROVIDED.**

The table below shows some values for the equation $y = 5x^2 - 20x - 10$.

x	-2	-1	0	1	2	3	4	5	6
y	50	15	A	-25	B	-25	-10	15	50

- (a) Find the values of A and B . [2]
- (b) Using a scale of 2 cm to 1 unit on the x -axis for $-2 \leq x \leq 6$ and 1 cm to 5 units on the y -axis for $-35 \leq y \leq 60$, draw and label the graph of $y = 5x^2 - 20x - 10$. [4]
- (c) On the same axes, draw the graph of $y = 5x + 20$. [2]
- (d) Use your graph(s) to solve the following equations:
- (i) $5x^2 - 20x - 10 = 0$ [2]
- (ii) $5x^2 - 20x - 10 = 5x + 20$ [2]
-



BAHAMAS GENERAL CERTIFICATE OF SECONDARY EDUCATION
EXAMINATION

School No.	Candidate No.	Level:	For Examiner's Use
Subject Number & Title:		Paper:	
Surname & Initials:		Section:	
Signature:	Date:	Qu. No.	

