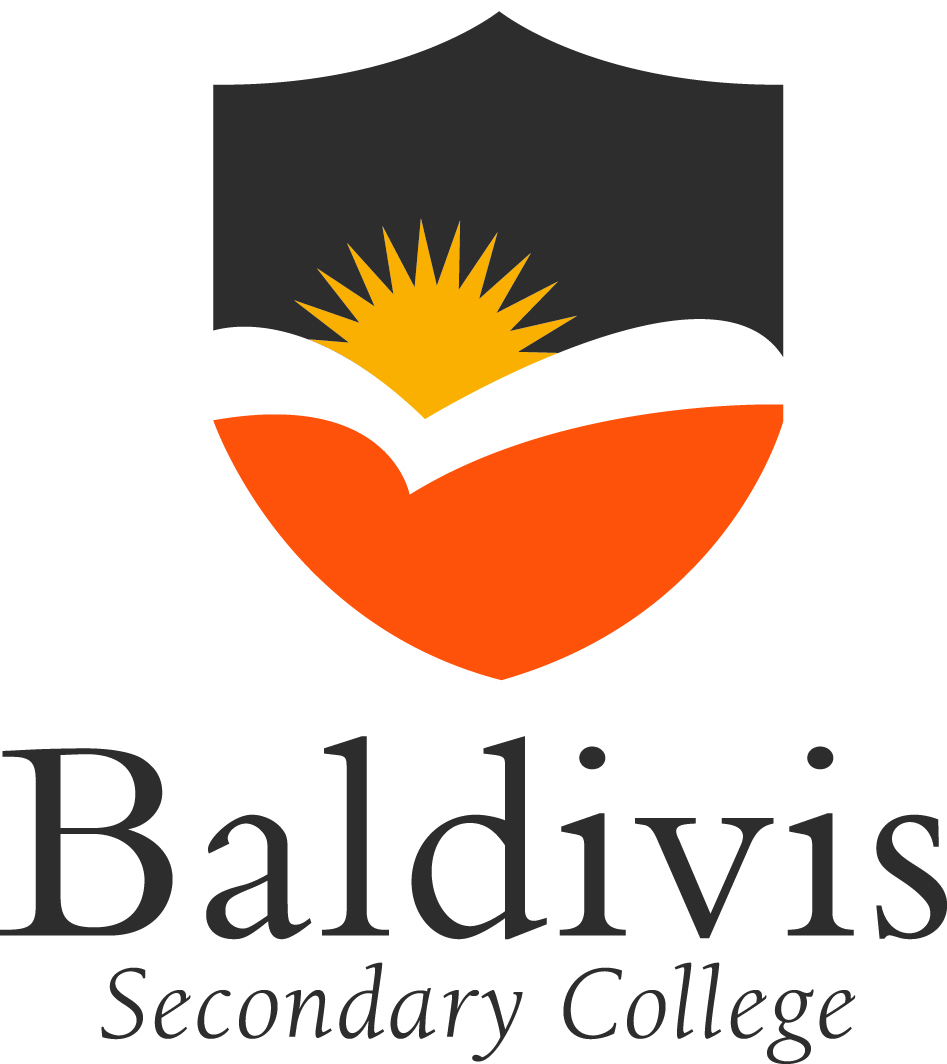
**

**Mathematics Specialist Unit 1**

# Test 4

**Trigonometry**

|  |
| --- |
| **Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Total Marks:\_\_\_\_\_\_\_\_\_\_** |
|  |
|  |

**Task type: Response**

**Time allowed for this task:** 60 minutes, in-class, under test conditions

Section One: Calculator-free 30 minutes ( 30marks)

Section Two: Calculator-assumed 30minutes ( 30marks)

**Materials required:** Calculator with CAS capability (to be provided by the student)

**Standard items:** Pens (blue/black preferred), pencils (including coloured), sharpener, correction fluid/tape, eraser, ruler, highlighters

**Special items:**  Drawing instruments, templates, notes on one unfolded sheet of   
A4 paper, and up to three calculators approved for use in the WACE examinations

Formula sheet

**Marks available: 60 marks**

**Task weighting: 7%**

**Section One : Calculator Free 30 Marks**

**Time Allowed 30 minutes**

**Question 1**

**[7 marks]**

1. Solve for in for

[3 marks]

1. Find all the solutions (in radians) for x in

[4 marks]

**Question 2**

**[4 marks]**

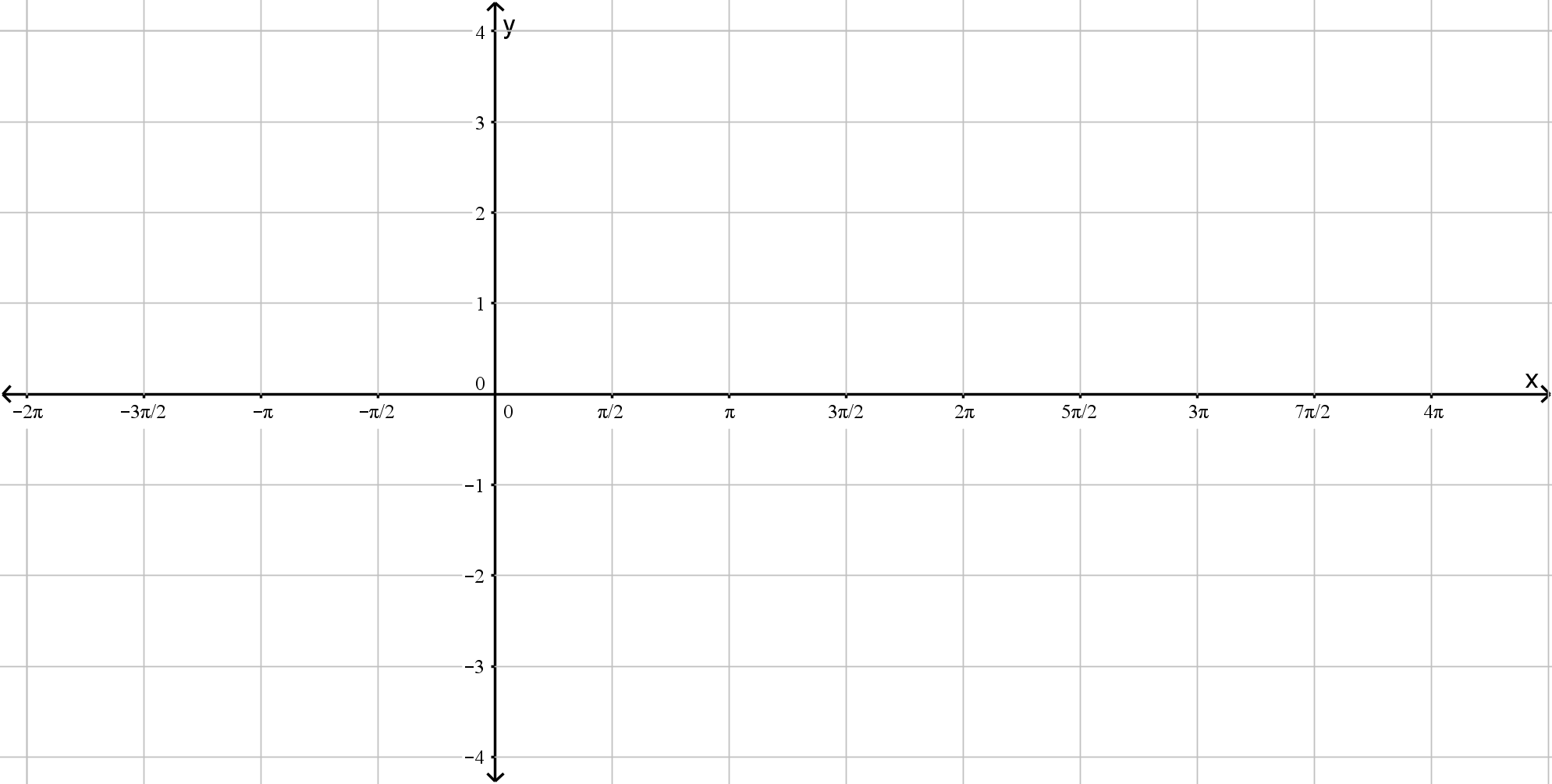
Find in

**Question 3**

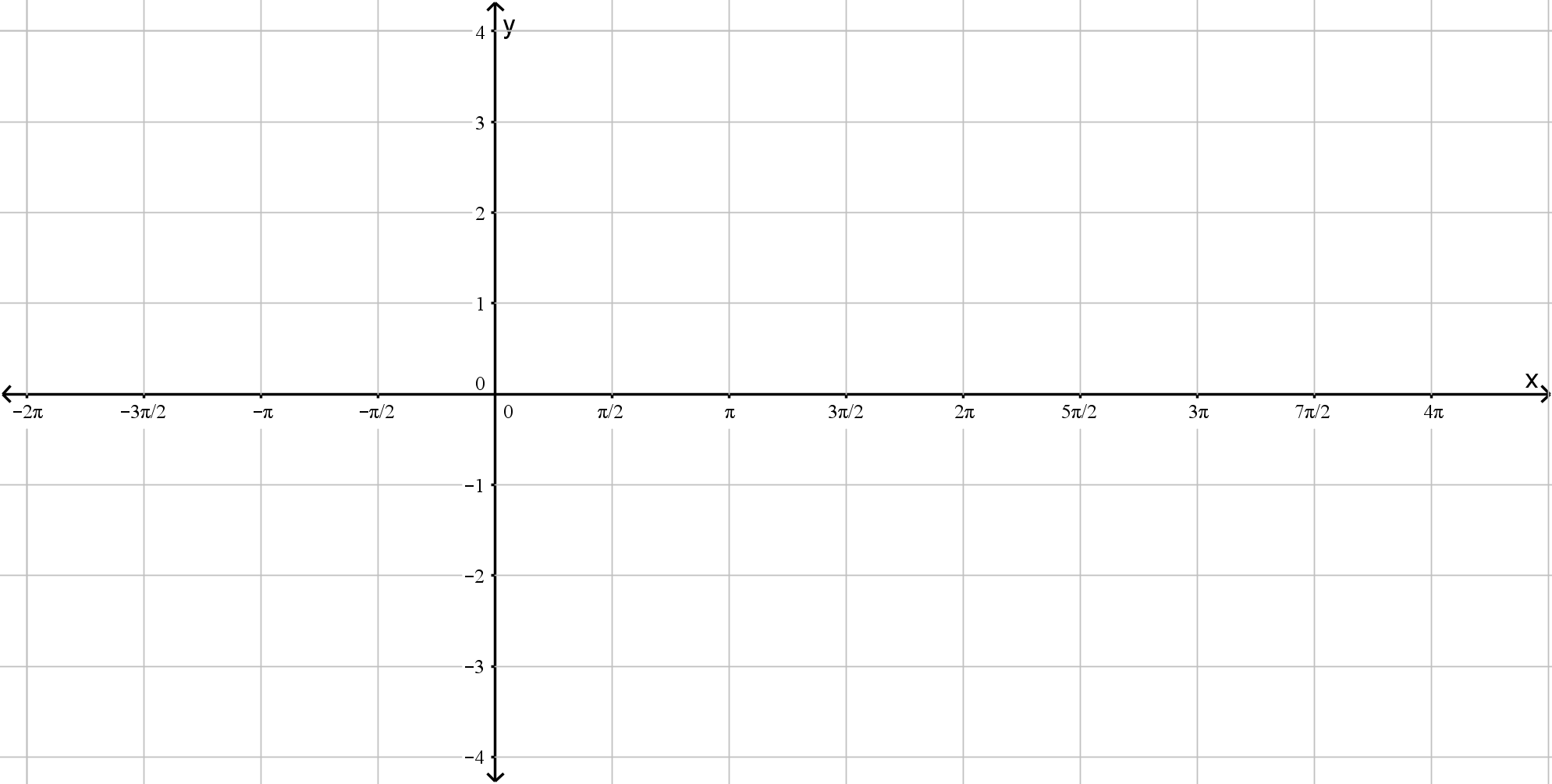
**[6 marks]**

On the grids below sketch the following graphs of

[3 marks]



[3 marks]



**Question 4**

**[4 marks]**

Evaluate:

[2 marks]

[2 marks]

**Question 5**

**[9 marks]**

Prove that, for ,

[5 marks]

Hence, or otherwise, solve the equation

For

[4 marks]

**Section Two : Calculator Assumed 30 Marks**

**Time Allowed 30 minutes Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Question 6**

**[9 marks]**

Given that

use appropriate trigonometric identities to find the exact value of:

[1 mark]

[1 mark]

[2 marks]

[2 marks]

[3 marks]

**Question 7**

**[9 marks]**

1. Express in the form where and . Hence find the exact value or and to two decimal places.

[3 marks]

1. Show that the equation can be written in the form

[3 marks]

1. Solve the equation for giving your answers to one decimal place.

[3 marks]

**Question 8**

**[12 marks]**

Prove the following identities

[3 marks]

[4 marks]

[5 marks]