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**MATHEMATICS  
Methods Units 1 & 2**

**Test 1 – Trigonometry**

**Chapters 11, 12 and 13**

**Semester 1 2019**

**Section One - Calculator Free**

Time allowed for this section

Working time for this section: 20 minutes

Marks available: 22 marks

## Material required/recommended for this section

##### To be provided by the supervisor

This Question/Answer booklet

Formula sheet

##### To be provided by the candidate

Standard items: pens, pencils, pencil sharpener, eraser, correction fluid, ruler, highlighters

Special items: Nil

## Important note to candidates

No other items may be used in this section of the examination. It is **your** responsibility to ensure that you do not have any unauthorised notes or other items of a non-personal nature in the examination room. If you have any unauthorised material with you, hand it to the supervisor **before** reading any further.

1. (2 marks)  
   Convert the following to radians, giving exact values.
2. 
3. 
4. (2 marks)  
   Convert the following radians to degrees.
5. 
6. 
7. (3 marks)  
   State which quadrant each of the following angles are in.
8. −285°
9. 
10. −
11. (4 marks)  
    Use the unit circle shown below to determine each of the following, giving your answers in terms of either a, b, c or d.

390

1

230

Q (c, d)

P (a, b)

1

1. (2 marks)

For the line  determine the angle of inclination the line makes with the -axis.

1. (9 marks)

In the circle of radius 5 cm with centre 0 drawn below, 

* 1. Find the exact dimensions of triangle OAB. Show your reasoning for each dimension. [4]



* 1. Find the exact area of the minor segment formed by the chord AB. [3]
  2. Find the exact perimeter of the minor segment formed by the chord AB. [2]

**End of Section One**