

# GRADE 11 MATHEMATICS NOVEMBER EXAMINATION PAPER 2

#### QUESTION 1

- 1.1 Calculate the following with the use of a calculator:
  - 1.1.1 sin 47 + cos 47\* (1)
  - 1.1.2 nm<sup>2</sup>50" (1)
  - 1.1.3 cot 33° x conec 15° (1)
- 1.2 If A + 24,3° and B + 22,2°, calculate the following to two decimal places:
  - 121 sin (A+B) (2
  - 122 sec⊕ (2)
- 1.3 Calculate the following without the use of a calculator:
  - 1.3.1 sin 30" + cos 60"
  - 1.3.2 tan-45" × cos 45"
  - 1.3.5 cos 90" + sin 90" (3)
    - 11(2)

a)

(di)

#### QUESTION 2

Without the use of a calculator, answer the following questions:

2.4 Determine the general solution for: 2sinf 8 × 1 + sin 8

- 2.1 Given one 8 x - and 0" ≤ 8 ≤ 180". Use a diagram to determine the values of:
  - 2.5.5 tan(180\*+8)
  - 2.12 3sin-8 90°) (2
- 22 Simplify the following expression: (5)
- 2.3 Proof that tunit 1 = 1 = 1 (4
- The same transfer of the same
- Alter Manager Markette

#### QUESTION 3

3.1 Sketch on the same set of axes the graphs for:

$$f(x) = -2\cos x$$
 and  $g(x) = \sin 2x$ , for the interval  $-30^\circ \le x \le 180^\circ$ .

Show the coordinates of the turning points and all axis intercepts.

(5)

3.2 Study the following sketch and determine the value of cost – sixel, without the use of a calculator.





#### QUESTION 4

In the diagram below, the angle between line AB and the s-axis is  $\beta$ . The angle between line CD and the x-axis is  $\beta$ . A and  $\Omega$  are the x-axis intercept points for lines AB and CD respectively. The coordinates of point B ig:  $(\sqrt{3}, \epsilon)$ .

The intercept point E, of lines AB and CD lies on the y-axis. AED + 60,69°.
The equation of the line CD is given as: 3z + 2y + 6



- Determine the coordinates of E.
  - committee of coordinates of E. (4)
- 4.2 Calculate the numerical value of a:

MARKET STATE

4.3 Calculate the numerical value of §

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