

Please check the examination details below before entering your candidate information

Candidate surname	Other names
-------------------	-------------

Pearson Edexcel
International
Advanced Level

Centre Number

Candidate Number

Time 1 hour 30 minutes

Paper
reference

WMA13/01

Mathematics

International Advanced Level
Pure Mathematics P3

You must have:

Mathematical Formulae and Statistical Tables (Yellow), calculator

Total Marks

Candidates may use any calculator permitted by Pearson regulations.
Calculators must not have the facility for symbolic algebra manipulation.



<https://vizle.offnote.co>

Contact us: vizle@offnote.co

This document was generated automatically by **Vizle**

Your **Personal Video Reader Assistant**

Learn from Videos **Faster** and **Smarter**

VIZLE **PRO / BIZ**

PDF, PPT ~~Watermarks~~

- Convert *entire* videos
- *Customize* to retain all essential content
- Include Spoken *Transcripts*
- Customer support

Visit <https://vizle.offnote.co/pricing> to learn more

VIZLE **FREE PLAN**

PDF only ~~Watermarks~~

- Convert videos *partially*
- Slides may be *skipped**
- Usage restrictions
- No Customer support

Visit <https://vizle.offnote.co> to try free

Login to Vizle to unlock more slides*

(b) Hence solve, for $0 < \theta < 90^\circ$

$$\frac{9(1 - \cos 2\theta)}{2 \sin 2\theta} = 2 \sec^2 \theta$$

giving your answers to one decimal place.

(Solutions based entirely on graphical or numerical methods are not acceptable.)

$$\begin{aligned} \cos 2x &= 2 \cos^2 x - 1 \\ &= 1 - 2 \sin^2 x \end{aligned}$$

$$\sin 2x = 2 \sin x \cos x$$

$$\frac{1 - (1 - 2 \sin^2 x)}{2 [2 \sin x \cos x]} = \frac{x \sin^2 x}{2 \sin x \cos x}$$

(3)

(6)

WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

4. The functions f and g are defined by

$$f(g(x)) = 3$$

$$\frac{4(g(x)) + 6}{g(x) - 5} = 3$$

$$f(x) = \frac{4x + 6}{x - 5}$$

$$x \in \mathbb{R}, x \neq 5$$

$$g(x) = 5 - 2x^2$$

$$x \in \mathbb{R}, x \leq 0$$

(a) Solve the equation

$$fg(x) = 3$$

(4)

(b) Find f^{-1}

(3)

(c) Sketch the graph of the equation $y = g(x)$ and the curve with coordinates of the points where each

(3)

Leave blank

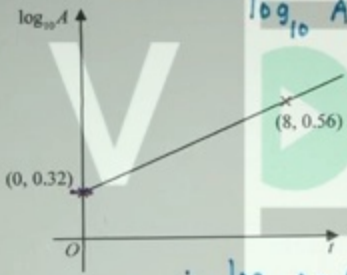
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT

AREA

5.
 $\log_{10} p = 0.32$
 $p = 10^{0.32}$
 $= 2.089$



$$A = p q^t$$

$$\log_{10} A = \log_{10} p q^t$$

$$= \log_{10} p + \log_{10} q^t$$

$$= (\log_{10} q) t + \log_{10} p$$

$$\therefore \log_{10} A = \underbrace{(\log_{10} q)}_m t + \underbrace{\log_{10} p}_c$$

$$y = m x + c$$

Figure 1

The growth of duckweed on a pond is being studied. The area covered by duckweed, $A \text{ m}^2$, at a time t days after the start of the study is given by the equation $A = p q^t$, where p and q are positive constants. Figure 1 shows a graph of $\log_{10} A$ against t . The graph is a straight line. The origin is O .

Leave blank

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

$\log_{10} A$ v/s t

Question 9 continued



Vizle

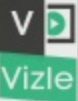
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

blank



Vizle



<https://vizle.offnote.co>

Contact us: vizle@offnote.co

This document was generated automatically by **Vizle**

Your **Personal Video Reader Assistant**

Learn from Videos **Faster** and **Smarter**

VIZLE PRO / BIZ

PDF, PPT Watermarks

- Convert *entire* videos
- *Customize* to retain all essential content
- Include Spoken *Transcripts*
- Customer support

Visit <https://vizle.offnote.co/pricing> to learn more

VIZLE FREE PLAN

PDF only Watermarks

- Convert videos *partially*
- Slides may be *skipped**
- Usage restrictions
- No Customer support

Visit <https://vizle.offnote.co> to try free

Login to Vizle to unlock more slides*