7 (a) Solve the equation

$$\cos(3x - 15)^\circ = \frac{\sqrt{3}}{2}$$
 for $0 \le x < 180$

(4)

(b) Solve, giving your solutions to one decimal place where appropriate,

$$3 \tan y^{\circ} + 4 \sin y^{\circ} = 0$$
 for $-180 \le y < 180$

(4)

(c) Solve, giving your solutions to one decimal place where appropriate,

$$\cos \theta^{\circ} = 3 \sin^2 \theta^{\circ} - 1$$
 for $-180 \leqslant \theta < 180$

(4)

| Question 7 continued | | |
|----------------------|------|------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |



DO NOT WRITE IN THIS AREA

| $\times\!\!\times\!\!\times\!\!\times$ | |
|-------------------------------------------------------------------------------------------|-----|
| $\circ\circ\circ\circ$ | |
| | 4 |
| $\overline{\Box}$ | 2 |
| | > |
| | |
| $\times \times \times$ | > |
| $\times \times \times \times \times$ | > |
| XXXXX | > |
| \times | |
| $\times \times \times \times$ | > |
| $\times \times \times$ | 5 |
| | ί. |
| \leftrightarrow | |
| \times | |
| \leftrightarrow | |
| | |
| $\times \times \times$ | ? |
| $\times \times \times \times \times \times$ | |
| $\times \times \times \times \times$ | > |
| \times | > |
| | > |
| $\times \times \times$ | |
| \otimes aa \otimes | > |
| XIIIKK | > |
| $\times\!\!\!\!+\!\!\!\!+\!\!\!\!\times$ | > |
| XX | |
| | 5 |
| \times | 5 |
| \times | 5 |
| $\times\!\!\!\times\!\!\!\!+\!\!\!\!\times$ | |
| ~~~~ | |
| | |
| $\langle \times \times \rangle$ | (|
| | |
| · VA | |
| | |
| | 2 |
| | > |
| $\times \times \times \times$ | |
| | > |
| | |
| | > |
| | |
| | 5 |
| | |
| | 5 |
| $\times\!\!\times\!\!\times\!\!\times$ | |
| $\leftrightarrow\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!$ | |
| \cdots | |
| $\circ\circ\circ\circ\circ$ | |
| | |
| | |
| $\times\!\times\!\times\!\times$ | > |
| $\times\!\!\times\!\!\times\!\!\times$ | |
| $\times\!\!\times\!\!\times\!\!\times$ | > |
| $\times\!\!\times\!\!\times\!\!\times$ | |
| $\times\!\!\times\!\!\times\!\!\times\!\!\times$ | > |
| $\times\!\!\times\!\!\times\!\!\times\!\!\times$ | |
| $\times\!\times\!\times\!\times\!\times$ | > - |
| | |
| $\times\!\!\times\!\!\times\!\!\times$ | |
| >>>> | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| D | |
| \times | |
| DO | |
| \circ | |
| 0 | |
| 9 | |
| 9 | |
| ONO | |
| ONO | |
| 0 20 | |
| ONO | |
| ONOTA | |
| ONO | |
| WIONO | |
| O NOT WI | |
| O NOT WI | |
| O NOT WRI | |
| O NOT WRIT | |
| O NOT WRIT | |
| O NOT WRI | |
| O NOT WRITE | |
| O NOT WRITE! | |
| O NOT WRITE IN | |
| O NOT WRITE! | |
| O NOT WRITE IN | |
| O NOT WRITE IN THI | |
| O NOT WRITE IN THI | |
| O NOT WRITE IN | |
| O NOT WRITE IN THI | |
| O NOT WRITE IN THIS A | |
| O NOT WRITE IN THIS A | |
| O NOT WRITE IN THIS A | |
| O NOT WRITE IN THIS AR | |
| O NOT WRITE IN THIS A | |
| O NOT WRITE IN THIS AR | |
| O NOT WRITE IN THIS AR | |
| O NOT WRITE IN THIS AR | |
| O NOT WRITE IN THIS AR | |
| O NOT WRITE IN THIS AR | |

| Question 7 continued | |
|----------------------|--|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

| $\times\!\!\times\!\!\times\!\!\times$ |
|----------------------------------------|
| $\times\!\!\times\!\!\times\!\!\times$ |
| $\times\!\!\times\!\!\times\!\!\times$ |
| **** |
| $\times\!\!\times\!\!\times\!\!\times$ |
| M M |
| |
| |
| |
| \times |
| \times ω |
| EINTHIS |
| XX |
| \times |
| \times |
| |
| \times |
| \times |
| \times |
| |
| WRIT |
| |
| |
| \times |
| $\times \odot \times$ |
| DO NOT |
| $\times \rightleftharpoons \times$ |
| \times |
| |
| $\times\!\!\!\!+\!\!\!\!\times$ |
| >>>>> |
| **** |
| XXXX |
| **** |
| **** |
| $\times\!\!\times\!\!\times$ |
| XXXX |
| ***** |
| $\times\!\!\times\!\!\times\!\!\times$ |
| XXXX |
| XXXX |
| **** |
| $\times\!\!\times\!\!\times\!\!\times$ |
| **** |
| XXXX |
| |
| \times |
| IREA |
| |
| 4 |
| \times |
| \times |
| Ī |
| \times |
| |
| |
| |
| |
| $\times \times \times \times$ |
| \times |
| |
| ×az× |
| 3 |
| S S |
| $\times = \times$ |
| NOT |
| NOT |
| NOT |
| $\times = \times$ |
| NOT |
| DONOTA |
| N DO NOT N |
| A DO NOT I |
| A DO NOT I |
| A DO NOT I |
| AREA DO NOT I |
| AREA DO NOT I |
| AREA DO NOT I |
| IIS AREA DO NOT V |
| IIS AREA DO NOT V |
| THIS AREA DO NOT N |
| THIS AREA DO NOT N |
| THIS AREA DO NOT N |
| EINTHIS AREA DO NOT V |
| WRITE IN THIS AREA DO NOT I |
| FWRITE IN THIS AREA DO NOT I |
| FWRITE IN THIS AREA DO NOT I |
| VOT WRITE IN THIS AREA DO NOT V |
| OT WRITE IN THIS AREA DO NOT I |
| NOT WRITE IN THIS AREA DO NOT N |
| O NOT WRITE IN THIS AREA |
| NOT WRITE IN THIS AREA DO NOT N |
| O NOT WRITE IN THIS AREA |

| Question 7 continued |
|------------------------------------|
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| (Total for Question 7 is 12 marks) |

