1: (a) Express $-2\sqrt{2} - \left(2\sqrt{6}\right)\mathrm{i}$ in the form $re^{i\theta}$ where $-\pi < \theta \leqslant \pi$

(3)

(b) Hence solve

$$z^5 = -2\sqrt{2} - \left(2\sqrt{6}\right)\mathrm{i}$$

Give your answers in the form $\sqrt{p}\,e^{i\theta}$ where $p \in \mathbb{Z}^+$ and $-\pi < \theta \leqslant \pi$

(3)

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Question 1 continued

(Total for Question 1 is 6 marks)