

| Question | Scheme  | Mark | Notes                |
|----------|---|------|----------------------|
| 13       | $4x^2 + 45 = 9x^2$<br><br>Condone lack of brackets for M1 only<br>$45 = 5x^2$ (oe)<br><br>$x = 3$<br><br>Accept $x = \pm 3$   | 3    | M1<br>M1 (DEP)<br>A1 |
| 14       | $\sqrt{(\sqrt{8})^2 + 1^2}$ or 3 (Pythagoras)<br><br>$\therefore (3) \left( \frac{\sqrt{8}}{\sqrt{(\sqrt{8})^2 + 1^2}} + \frac{1}{\sqrt{(\sqrt{8})^2 + 1^2}} \right)$<br><br>$1 + \sqrt{8}$<br><br><b>NB:</b> No working shown scores M0 M0 A0 even if correct answer given.    | 3    | M1<br>M1 (DEP)<br>A1 |
| 15 (a)   | 3, 6, 9, 12, 15 only  | 1    | B1                   |
| (b)      | $C = \{6, 12, 18, \dots, 48\}$<br><br>First B mark in (b) can be implied by<br>$(A \cap B) \cap C' = \{3, 9, 15\}$<br>(so $C' = \{3, 9, \dots, 45\}$ )<br><br>$\therefore (A \cap B) \cap C' = \{3, 9, 15\}$<br><br><b>NB:</b> ft on "(a)"<br>$n([A \cap B] \cap C') = 3$ (cao) | 3    | B1<br>B1<br>B1       |
| 16 (a)   | $\begin{pmatrix} -9 & -25 \\ -4 & 26 \end{pmatrix}$   | 2    | B2 (-1eeoo)          |
| (b)      | $\begin{pmatrix} -5 & 1 & 12 \\ 0 & -14 & -28 \end{pmatrix}$  | 2    | B2 (-1eeoo)          |