

| Question | | Answer | Marks | Part Marks and Guidance | |
|----------|-----|--------------------------------|-------|--|-----------------------|
| 1 | (a) | $x(x - 25)$ final answer | 1 | | Condone $(x+0)(x-25)$ |
| | (b) | $(x - 5)(x + 5)$ final answer | 1 | | |
| | (c) | $x^2 - 15x - 250$ final answer | 2 | B1 for three of x^2 , $- 25x$, $[+]$ $10x$, $- 250$ | |

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| 2 | (a) | $2x^2 + 3x - 5$ Final answer | 3 | B2 for three of $2x^2$, $(+)$ $5x$, $-2x$, -5 soi Or B1 for two of $2x^2$, $(+)$ $5x$, $-2x$, -5 soi | |
| | (b) | 1 -2.5 or $-5/2$ | 1 1 | | |
| | (c) | $(x - 6)(x + 4)$ Final answer | 2 | M1 for $(x \pm 6)(x \pm 4)$ | Condone omission of final bracket |

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| 3 | (a) | $5(x + 2)$ final answer | 1 | | |
| | (b) | (i) $x^3 - 5x$ final answer | 2 | B1 for x^3 or $- 5x$ seen | |
| | | (ii) $11x + 2$ final answer | 3 | B1 for $3x + 6$ B1 for $8x - 4$ After 0 , allow SC1 for $11x$ seen in answer | |

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| 4 | (a) | | $10x - 3$ | 3 | Final answer B1 for $4x + 12$ soi B1 for $6x - 15$ soi After 0 , then SC1 for $10x + k$ | |
| | (b) | | $5x(y + 2)$ | 2 | Final answer B1 for $5(xy + 2x)$ or $x(5y + 10)$ seen Or SC1 for $2x(2.5y + 5)$ or $10x(0.5y + 1)$ seen | Allow for 2 marks $(5x + 0)(y + 2)$ etc Allow for 1 mark $(x + 0)(5y + 10)$ Condone missing final bracket |

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|---|-----|------|-------------------------------|---|-------------------------------|--|
| 5 | (a) | | $2(3x + 4)$ final answer | 1 | Condone missing final bracket | |
| | (b) | (i) | 16 | 1 | | |
| | | (ii) | 7 | 1 | | |
| | (c) | | $(x - 3)(x + 3)$ final answer | 1 | Condone missing final bracket | |

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| 6 | (a) | (i) $\frac{8}{5}$ or 1.6 oe | 3 | <p>M2 for $5x = 8$ Or M1 for one side of equation correct AND M1 for final answer FT from <i>their</i> $ax = b$, provided $a \neq \pm 1$</p> <p>Allow B3 for correct answer given embedded as final answer</p> | <p>Allow M1 for e.g. $3x = 8 - 2x$</p> <p>E.g. $3 \times 1.6 + 7 = 15 - 2 \times 1.6$</p> |
| | | (ii) | 1 | | 0 for embedded answer |
| | | (iii) ± 5 | 3 | <p>B2 for one solution</p> <p>Or M1 for 25 or 5^2 seen or for $\sqrt{\frac{75}{3}}$</p> <p>Or B1 each for embedded solutions e.g. $3 \times 5^2 = 75$ as final answer</p> | |
| | (b) | $8x^2 - 28x$ as final answer | 2 | M1 for one term correct or for correct answer seen then spoilt by further 'simplification' or for $4(2x^2 - 7x)$ | <p>Condone $8x^2 + - 28x$ for 2 marks</p> <p>M0 for $x(8x - 28)$</p> |
| | (c) | $2(3 + 4x)$ | 1 | | Condone missing final bracket |
| | (d) | <p>$x - bx = 2a - 3$ oe</p> <p>$x(1 - b) = 2a - 3$ oe</p> <p>$[x =] \frac{2a - 3}{1 - b}$ or $\frac{3 - 2a}{b - 1}$</p> | <p>M2</p> <p>M1</p> <p>M1</p> | <p>M1 for one correct step in collection of terms</p> <p>For factorising, FT</p> <p>For division, FT <i>their</i> factored form; condone written with a division symbol (even without brackets) rather than as a fraction for final step</p> | <p>E.g. M1 for $x = 2a - 3 + bx$ or for terms in x or $x^2 = 2a - 3$ or, at worst, e.g. $-b = 2a - 3$</p> <p>For last two marks, no FT from too simple 'formulae' after their errors</p> <p>Mark best attempt, not a mixture</p> |

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| 7 | (a) | $12a^3$ | 2 | Condone $12 \times a^3$ for 2 marks B1 for $12 [a^k]$, accept $k = 0$ or B1 for $[k]a^3$ k not equal to 0 or SC1 only for $12 + a^3$ | so 12 only scores B1 so a^3 only scores B1 |
| | (b) | 25 | 2 | M1 for $4 \times -2.5 \times -2.5$ or better soi or for 6.25 seen or SC1 for answers of -25 or 100 | |
| | (c) | $10x - 35 [= 3]$ or $2x - 7 = 3/5$ $10x = 38$ or $2x = 7.6$ or FT $[x =] 3.8$ oe (accept 38/10 or better isw) | B1 M1FT M1FT | For dealing with brackets correctly For getting to form $ax = b$; FT <i>their</i> wrong first step for $a \neq 0$ or 1 and $b \neq 0$ FT <i>their</i> $ax = b$ with $a \neq 0$ or 1 or b and $b \neq 0$ Allow B3 for 3.8 www | Allow FT at division step isw – does not need to be evaluated If division step not shown accept answer for 2 nd M1 correct to 2 sf or better Allow correct embedded solution in original equation as final answer to score full marks i.e. $5(2 \times 3.8 - 7) =$ |
| | (d) | $4x(3x + 2y)$ | 2 | M1 for $2(6x^2 + 4xy)$ or $4(3x^2 + 2xy)$ or $2x(6x + 4y)$ or $x(12x + 8y)$ | Condone final bracket omitted Allow with 'x' signs |