| Question |  | Answer | Marks | Part Marks and Guidance |  |  |
| :--- | :--- | :--- | :--- | :---: | :--- | :--- |
| $\mathbf{1}$ | (a) | 5.5 or $51 / 2$ | 3 | nfww <br> M2 for $2 x=11$ or $[x=] 11 / 2$ <br> O M1 for one side of this correct <br> AND <br> M1 for answer FT their $a x=b$ or their <br> ax $+b=0$ for $a \neq 1$ or $0, b \neq 0$ | Common dependent on at least M1 already <br> earned |  |
|  | (b) |  | $7 y(y-2)$ as final answer | 2 | M1 for $7 y(\ldots)$ or for $7\left(y^{2}-2 y\right)$ or for <br> $y(7 y-14)$ |  |


| $\mathbf{2}$ | (a) | $(x-3)(x+3)$ final answer | 1 |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | (b) | $(x-3)(x-1)$ final answer | 2 | M1 for $(x \pm 3)(x \pm 1)$ |  |
|  | (c) | $\frac{x-1}{x+3}$ final answer | 1 |  |  |


| 3 | (a | $x^{2}+2 x-15$ <br> (b) | 2 | Final answer <br> B1 for three of $x^{2},(+) 5 x,-3 x,-15$ |  |  |
| :--- | :--- | :--- | :---: | :---: | :--- | :--- |
| (c) | $(2 x+y)(2 x-y)$ <br> 3 and 4 $4-3)(x-4)$ | Final answer <br> M1 for $(2 x \pm y)(2 x \pm y)$ | M2 | M1 for $(x+\mathrm{a})(x+\mathrm{b})$ where $\mathrm{ab}=12$ <br> or $a+\mathrm{b}=-7$ <br> Final answers | B1 | Final mark independent of method |


| 4 |  | $(2 x-1)(x-4)$ <br> $(x-4)(x+2)$ <br> $2 x-1$ <br> $x+2$ | M2 | M1 for $(2 x+\mathrm{a})(x+\mathrm{b})$ where $\mathrm{ab}=4$ |  |
| :--- | :--- | :--- | :---: | :--- | :--- |
| M1 |  |  |  |  |  |


| $\mathbf{5}$ | $\mathbf{( a}$ | $(x+3)^{2}-8$ <br> (b) | $\left(x+3^{2}\right)=8$ <br> $x+3=[ \pm] \sqrt{8}$ <br> -0.17 and -5.83 | M1 for $\left(x+3^{2}\right)$ soi <br> M1FT | FT from their $(x+a)^{2} \pm b$ <br> $\pm$ not necessary for this mark <br> B2 |
| :--- | :--- | :--- | :---: | :--- | :--- |
| B1 for one of the values correct or two <br> values correct but not to 2dp | a and $b$ integers |  |  |  |  |


| 6 | (a) | $(x-5)(x-2)$ <br> 5 and 2 | M2 <br> B1 | M1 for $(x+\mathrm{a})(x+\mathrm{b})$ <br> where $\mathrm{a}+\mathrm{b}=-7$ or $\mathrm{ab}=+10$ | Final mark independent of method |
| :--- | :--- | :--- | :--- | :--- | :--- |

