

Question	Answer	Mark	Mark scheme	Additional guidance
12 (a)	Proof	<p>P1</p> <p>P1</p> <p>C1</p>	<p>for process to expand at least one square, to obtain 4 terms will all 4 terms correct without considering signs or for 3 terms out of 4 correct with correct signs eg $(5m + 2)^2 = 25m^2 + 10m + 10m + 4$ oe or $(5m - 2)^2 = 25m^2 - 10m - 10m + 4$ oe or for $\{(5m + 2) + (5m - 2)\} \{(5m + 2) - (5m - 2)\}$</p> <p>for complete process to expand brackets correctly eg $25m^2 + 10m + 10m + 4 - 25m^2 + 10m + 10m - 4 (= 40m)$</p> <p>or for $(5m + 2 + 5m - 2)(5m + 2 - 5m + 2) (= (10m)(4) = 40m)$</p> <p>for showing statement is correct (with supportive evidence) eg $40m = 20(2m)$ or $40m \div 20 = 2m$ or $40m$ and 40 is a multiple of 20 oe eg 20 is a factor of 40 or $40m$ and 'is a multiple of 20'</p>	<p>NB: $(5m + 2)^2 = 25m^2 + 20m$ or $20m + 4$ can be considered 3 terms out of 4 correct with correct signs $(5m - 2)^2 = 25m^2 - 20m$ or $-20m + 4$ can be considered 3 terms out of 4 correct with correct signs</p> <p>Does not have to be simplified at this stage. Must have no errors Condone recovered brackets eg $25m^2 + 20m + 4 - 25m^2 - 20m + 4$ provided this is simplified to $40m$</p> <p>Condone recovered brackets on $25m^2 + 20m + 4 - 25m^2 - 20m + 4 = 40m$</p>

Question	Answer	Mark	Mark scheme	Additional guidance
12 (b)	No, supported	C1	<p>No with reason</p> <p>Acceptable examples eg when $m = 1$, $40m = 40$ and 80 is not a factor (of 40) oe 80 is not always a factor of $40m$ It only works for even numbers (of m) It does not work for odd numbers (of m) It does not work if $m = 1$ oe</p> <p>Not acceptable examples 80 is not a factor of $(5m + 2)^2 - (5m - 2)^2$ 80 is not a factor of 40 / 80 is not a factor of $40m$ 80 is a multiple of 40 not a factor oe $40m = 80(0.5m)$ or $40m \div 80 = 0.5m$ $40m$ divided by 80 is a fraction $40m \div 80 = 0.5$ It works for even numbers (of m) It works for odd numbers (of m) It works when $m = 2$ oe eg 80 is a factor when $m = 2$ Yes, ...</p>	