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## Factorising: Revision Exercise - Worked Solutions 5-7

Factorise the following

① $10x^5y^2 - 12x^4y^3$	② $3a^2 - 12$	③ $7x^2 + 4x - 3$
④ $15a^2 + ab - 6b^2$	⑤ $3a^2 - 6ac + 3ab - 6bc$	
⑥ $30x^3 + 3x^2 - 9x$	⑦ $(a+b)^2 - (a+b)(a+3b)$	
⑧ $p^4 - q^4$	⑨ $2 + 3x - 9x^2$	⑩ $x^6 - 8x^3 + 15$

$$\begin{aligned} \textcircled{5} \quad 3a^2 - 6ac + 3ab - 6bc &\equiv 3(a^2 - 2ac + ab - 2bc) \\ &\equiv 3[a(a - 2c) + b(a - 2c)] \\ &\equiv 3(a - 2c)(a + b) \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad 30x^3 + 3x^2 - 9x &\equiv 3x(10x^2 + x - 3) \\ &\equiv 3x(5x + 3)(2x - 1) \end{aligned}$$

$$\begin{aligned} \textcircled{7} \quad (a+b)^2 - (a+b)(a+3b) &\equiv (a+b)[a+b - (a+3b)] \\ &\equiv (a+b)(a+b - a - 3b) \\ &\equiv -2b(a+b) \end{aligned}$$



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