

SECTION A

1(a) $3x^2-8x-16$	W2	M1 $3x^2-12x+4x-16$ (2 terms)	
(b) 4,-2	W3	M2 $(x-4)(x+2)$ or M1 $(x\pm 4)(x\pm 2)$ A1 $x=4$ and -2 If M0, W1 $x=-2$ or $x=4$	M2 $(x-1)^2=9$ M1 $(x-1)^2=k$ or eq M2 $\frac{2\pm\sqrt{(36)}}{2}$ M1 substitution
(c) $\frac{x+3y}{2x}$ or eq	W2	M1 $2x(x+3y)$ numerator or $\div 2$ or x	
2(a) 2^5	[7] W2	M1 $2+0-3$ or $2^2/2^{-3}$ or $2^5\times 2^0$ or W1 32	
(b) $2^{1/2}$ answer only	W2 [4]	M1 $2^{1.5}$ or $2^{3/2}$ seen or W1 $\sqrt{2}$	
3 upper 4.5(0) or 4.49 lower 4.7(0) or 4.69	W3	M1 72.35, 72.45 or 67.75, 67.85 or 2 lower or 2 upper A1 lower 4.5 A1 upper 4.7	[W2 correct answers reversed]
4 (a) $Q\propto\frac{1}{p^2}$	[3] W1		
(b) $Q=\frac{8}{p^2}$ or eq	W2	M1 values for P and Q substituted	
(c) $\frac{8}{9}$ or 0.8	W1 [4]		
5 25.2cm	W2 [2]	M1 SF3 seen	
6 (a) $f=\frac{a}{b+e^2}$	W2	M1 $a=f(b+e^2)$	
(b) $t=\frac{6r^2}{s}$	W3 [5]	M2 $6r^2=st$ or M1 $r^2=st/6$ or $r\sqrt{6}=\sqrt{(st)}$ [penalise omission subject once only in a/b]	

Total A 25