Question			Answer	Marks	AO	Guidance	
7	(a)		constant term needs $(x^2)^2 \times (x^{-1})^4$	**B1***	**3.1a**	Attempt required term	Possibly within an expansion that also attempts other terms, in which case powers of x must be seen to be intended to cancel out at some point in the solution ie this term becomes constant (and no others do) or the same single power of x seen in numerator and denominator
			coeff is ${}^6C_2 \times 3^2 \times 2^4$	**M1dep***	**1.1**	Attempt correct coefficient May still have x present as well ${}^6C_2$ may be implied by 15 used	Or use ${}^6C_4$ Possibly within fuller expansion Ignore any other terms attempted
			$15 \times 9 \times 16 = 2160$ **AG**	**A1**	**2.1**	Obtain given answer	If part of a fuller expansion then the constant term must be identified (eg underlined or isolated)
			Alternative method **Taking a factor outside the bracket**			**This MS should be applied to any attempt at using a factor**	
			eg constant term in $\left(\frac{2}{x}\right)^6\left(1+\frac{3}{2}x^3\right)^6$ would need $\left(\frac{1}{x}\right)^6(x^3)^2$	**B1***		Attempt required term Powers of x must be seen to be intended to cancel out at some point in the solution	Possibly within an expansion that also attempts other terms, but then **this** term must become constant The power of x in the factor **must** be correct, but condone incorrect coeff eg $\frac{2}{x^6}$
			coeff is ${}^6C_2 \times 2^6 \times \left(\frac{3}{2}\right)^2$	**M1dep***		Attempt correct coefficient May still have x present as well ${}^6C_2$ may be implied by 15 used	Or use ${}^6C_4$ Possibly within fuller expansion Ignore any other terms attempted
			$15 \times 64 \times 2.25 = 2160$ **AG**	**A1**		Obtain given answer	If part of a fuller expansion then the constant term must be identified
				[3]			If powers of x are never considered then **SC B1** for $15 \times 9 \times 16 = 2160$ (the coefficient has been found, but this term has not been justified as a constant term)

Question			Answer	Marks	AO	Guidance	
7	(b)		constant term needs $\left(\sqrt{x}\right)^4 \times (x^{-1})^2$	B1*	3.1a	Attempt required term	Possibly within an expansion that also attempts other terms, in which case powers of x must be seen to be intended to cancel out at some point in the solution ie this term becomes constant (and no others do) or same power of x in numerator and denominator
			coeff is ${}^6C_4 \times 5^2$	M1dep*	1.1	Attempt correct coefficient May still have x present as well Implied by correct answer	Or use ${}^6C_2$ Possibly within fuller expansion Ignore any other terms attempted
			$15 \times 25 = 375$	A1	1.1	Obtain 375 www Answer only gets full marks	If in a fuller expansion then no need to isolate as long as no other constant terms
			Alternative method **Taking a factor outside the bracket**			**This MS should be applied to any attempt at using a factor**	
			eg constant term in $\left(\frac{5}{x}\right)^6\left(1+\frac{1}{5}x^{1.5}\right)^6$ would need $\left(\frac{1}{x}\right)^6(x^{1.5})^4$	B1*		Attempt required term Powers of x must cancel out at some point in the solution (soi)	Possibly within an expansion that also attempts other terms, but then **this** term must become constant
			coeff is ${}^6C_4 \times 5^6 \times \left(\frac{1}{5}\right)^4$	M1dep*		Attempt correct coefficient May still have x present as well Implied by correct answer	Or use ${}^6C_2$ Possibly within fuller expansion Ignore any other terms attempted
			$15 \times 15625 \times 0.0016 = 375$	A1		Obtain 375 www Answer only gets full marks	If in a fuller expansion then no need to isolate as long as no other constant terms
				[3]			
7	(c)		Other products will also give a constant term eg $x^3 \times x^{-3}$ (and will not cancel out as all terms will be positive)	B1	2.4	Condone just 'there will be other constant terms' with no further explanation	Condone incorrect terms if an example is given, as long as it demonstrates cancelling
				[1]			