

8	(i)		$(1 - \frac{1}{4}x)^{-\frac{1}{2}} = 1 + (-\frac{1}{2})(-\frac{1}{4}x) + (\frac{1}{2})(-\frac{1}{2})(-\frac{3}{2})(-\frac{1}{4}x)^2$	B1	1.1	Obtain correct first two terms	Allow unsimplified coeffs
				M1	1.1a	Attempt third term in expansion of $(1 - \frac{1}{4}x)^{-\frac{1}{2}}$	Product of attempt at binomial coefficient and $(-\frac{1}{4}x)^2$ Allow BOD on missing brackets Allow BOD on missing negative sign in third term
			$= 1 + \frac{1}{8}x + \frac{3}{128}x^2$	A1	1.1	Correct third term	Allow unsimplified coeffs

Question			Answer	Marks	AO	Guidance	
			$(4-x)^{-\frac{1}{2}} = 4^{-\frac{1}{2}}(1-\frac{1}{4}x)^{-\frac{1}{2}} = \frac{1}{2}(1-\frac{1}{4}x)^{-\frac{1}{2}}$ $(4-x)^{-\frac{1}{2}} = \frac{1}{2} + \frac{1}{16}x + \frac{3}{256}x^2$	B1ft	1.1	Correct expansion of $(4-x)^{-\frac{1}{2}}$	fit as $\frac{1}{2}$ (their three term expansion) No ISW if expression subsequently spoiled by attempt to simplify eg $\times 256$
				[4]			
	(ii)		$\frac{1}{2}a = 16$ hence $a = 32$	B1ft	3.1a	Correct value of a	fit their first term from (i)
			$2 + \frac{1}{2}b = -1$ OR $\frac{1}{16}a + \frac{1}{2}b = -1$	M1	2.2a	Attempt equation involving b and a , or their numerical a	Must be using two relevant products (and no others) equated to -1 Allow for attempting equation – do not need to actually attempt solution for M1 Allow BOD if muddle between terms and coefficients
			$b = -6$	A1	1.1	Solve to obtain $b = -6$	A0 for $-6x$ unless subsequently corrected
				[3]			