Question			Answer	Marks	AO	Guidance	
3	(a)		$(3-2x)^{-2} = \frac{1}{9}(1+\ldots)^{-2}$	B1	1.1a	For reference: $\frac{1}{9}\left(1-\frac{2}{3}x\right)^{-2}$ - soi	or for $3^{-2}(1+\ldots)^{-2}$
			$(1+kx)^{-2} = 1+(-2)(kx)+\ldots$	B1FT	1.1	Correct first two terms follow through their k – allow un-simplified	$k \neq \pm 1, \pm 2$ - if correct $k = -\frac{2}{3}$
			$\ldots+\frac{(-2)(-3)}{2!}(kx)^2$	B1FT	1.1	Correct third term following through their k – allow un-simplified but must imply that the third term contains their k^2 - for correct k condone $\frac{2\times 3}{2!}\left(\frac{2}{3}x\right)^2$ (or similar for their k if negative)	$k \neq \pm 1, \pm 2$ Condone $\frac{2\times 3}{2!}(kx)^2$ and 2 for 2!
			$(3-2x)^{-2} = \frac{1}{9}\left(1+\frac{4}{3}x+\frac{4}{3}x^2+\ldots\right)$	B1	1.1	Or correct equivalent e.g. $\frac{1}{27}\left(3+4x+4x^2\right)$, $\frac{1}{9}+\frac{4}{27}x+\frac{4}{27}x^2$, etc. ISW after correct expansion seen	Ignore higher order terms if found – a correct answer scores all 4 marks www
				[4]			

Question			Answer	Marks	AO	Guidance	
3	(b)		$\lvert x\rvert < \frac{3}{2}$	**B1** **[1]**	**2.5**	oe, for example, $-\frac{3}{2} < x < \frac{3}{2}$ - allow $-\frac{3}{2} \leqslant x < \frac{3}{2}$ but not $-\frac{3}{2} \leqslant x \leqslant \frac{3}{2}$ (or any inequality that includes the $\frac{3}{2}$) - ISW once correct inequality seen. **Allow** $\left[-\frac{3}{2}, \frac{3}{2}\right)$ or $\left(-\frac{3}{2}, \frac{3}{2}\right)$ oe but not $\left[0, \frac{3}{2}\right)$ (or equivalents in set notation)	$-\frac{3}{2} < \lvert x\rvert < \frac{3}{2}$ is **B0** but $0 \leqslant \lvert x\rvert < \frac{3}{2}$ is **B1** **Note that** $\lvert 2x\rvert < 3$ **only is B0** (must be in terms of x)
3	(c)		$\frac{a+x}{(3-2x)^2} = (a+x)\left(\frac{1}{9} + \frac{4}{27}x + \ldots\right)$ $= \ldots + \left(\frac{1}{9} + \frac{4}{27}a\right)x + \ldots$ $\frac{4}{3}a + 1 = 0 \Rightarrow a = -\frac{3}{4}$	**B1FT** **B1FT** **[2]**	**3.1a** **2.2a**	Finding correct coefficient of x **or** the x term for their $(p+qx+\ldots)(a+x)$ - **FT** their p and q from part **(a)** (so their x-coefficient must be $p+aq$). Allow embedded in an expansion e.g. $= \frac{1}{9}\left(\ldots + \left(\frac{4}{3}a + 1\right)x + \ldots\right)$ or $= \frac{1}{9}\left(\ldots + \frac{4}{3}ax + x + \ldots\right)$ Follow through $-\frac{\textit{their}\text{ constant term}}{\textit{their}\text{ coefficient of } x}$ from part **(a)**	This mark can be implied by the correct answer for a (or on the **FT** as detailed in the next mark)