Question	Scheme	Marks	AOs
7	$\dfrac{(x-3)^2}{x^{\frac{3}{2}}}=\dfrac{x^2-6x+9}{x^{\frac{3}{2}}}=x^{\frac{1}{2}}-6x^{-\frac{1}{2}}+9x^{-\frac{3}{2}}$	M1	3.1a
	$\lim_{\delta x\to 0}\sum_{x=2}^{3}\dfrac{(x-3)^2}{x^{\frac{3}{2}}}\delta x=\int\left(x^{\frac{1}{2}}-6x^{-\frac{1}{2}}+9x^{-\frac{3}{2}}\right)\mathrm{d}x=\dfrac{2}{3}x^{\frac{3}{2}}-12x^{\frac{1}{2}}-18x^{-\frac{1}{2}}$	M1 A1	2.1 1.1b
	$\left[\dfrac{2}{3}x^{\frac{3}{2}}-12x^{\frac{1}{2}}-18x^{-\frac{1}{2}}\right]_2^3=2\sqrt{3}-12\sqrt{3}-\dfrac{18}{\sqrt{3}}-\left(\dfrac{4}{3}\sqrt{2}-12\sqrt{2}-\dfrac{18}{\sqrt{2}}\right)$ $=\ldots\sqrt{2}+\ldots\sqrt{3}$	M1	2.1
	$=\dfrac{59}{3}\sqrt{2}-16\sqrt{3}$	A1	1.1b
		(5)	
			(5 marks)

Notes

M1: Correct strategy to deal with the fraction. This requires expansion of the numerator followed by division by the denominator in order to reach an integrable form with at least 2 correct indices
M1: Interprets the demand correctly as an integral and applies $x^n \to x^{n+1}$ for at least one fractional power
A1: Fully correct integration (simplified or unsimplified)

M1: Applies the given limits the right way round to an expression of the form $ax^{\frac{3}{2}}+bx^{\frac{1}{2}}+cx^{-\frac{1}{2}}$ and combines 6 terms to reach an expression of the required form
A1: Correct expression