

Question	Scheme	Marks	AOs
10(a)	$2x^2 - 7x + 8 = -3x + 14 \Rightarrow 2x^2 - 4x - 6 = 0$	M1 A1	1.1b 1.1b
	$x = 3$	A1	2.2a
		(3)	
(b)	$\int 2x^2 - 7x + 8 \, dx = \frac{2x^3}{3} - \frac{7}{2}x^2 + 8x \quad (+c)$ or $\int 4x + 6 - 2x^2 \, dx = 2x^2 + 6x - \frac{2}{3}x^3 \quad (+c)$	M1 A1	1.1b 1.1b
	$\text{Area} = \frac{(14 + "5")}{2} \times "3" - \left[\frac{2x^3}{3} - \frac{7}{2}x^2 + 8x \right]_0^{"3"} = \dots$ or $\text{Area} = \left[2x^2 + 6x - \frac{2}{3}x^3 \right]_0^{"3"} = \dots$	M1	3.1a
	$\text{Area} = 18$	A1	1.1b
		(4)	

(7 marks)

Notes

(a)

M1: Sets the curve equal to the line and rearranges to form a 3TQ

A1: $2x^2 - 4x - 6 = 0$ oe

A1: $x = 3$

(b)

M1: Attempts to integrate the curve or alternatively the line-curve. Award for increasing the power by 1 on one of the terms. Allow slips in collecting like terms in the alternative method.

A1: Correct integrated expression (ignore any reference to +c)

M1: The overall strategy to find the shaded area proceeding to find a value for the area. In the method using the area of the trapezium, they must have attempted to find the y coordinate of *P*

A1: 18 cao