Question Number	Scheme	
5.	$1.2x + 2.5y + 4z \leqslant 60 \quad \Rightarrow \quad 12x + 25y + 40z \leqslant 600$ $4\frac{1}{3}x + 7\frac{1}{2}y + 9z \leqslant 200 \quad \Rightarrow 26x + 45y + 54z \leqslant 1200$ $x \geqslant \frac{40}{100}(x + y + z) \quad \Rightarrow \quad 3x \geqslant 2y + 2z$ $x \geqslant 2y$ $z \leqslant \frac{30}{100}(x + y + z) \quad \Rightarrow \quad 7z \leqslant 3x + 3y$ $x,\ y,\ z \geqslant 0$ Maximise $(P =)\ 275x + 425y + 650z$	M1 A1 A1 M1 A1 A1 B1B1
		7 marks

	Notes for Question 5	
a1M1	Attempts constraints for quantity of wood and production time (do not need to be simplified) Look for $1.2x + 2.5y + 4z \bullet 60$ and $4\frac{1}{3}x + 7\frac{1}{2}y + 9z \bullet 200$ where $\bullet$ is any inequality or equals. Condone e.g. 4.33 or 4.2 instead of $4\frac{1}{3}$ for the M mark	
a1A1	CAO One of these constraints fully simplified	
a2A1	CAO Both constraints fully simplified	
a2M1	Attempts at least two other non-trivial constraints (any inequality or equals)	
a3A1	Two other non-trivial constraints correct – fully simplified with integer coefficients	
a4A1	All other non-trivial constraints correct – fully simplified with integer coefficients – and trivial constraints stated	
a1B1	Objective function correct	
a2B1	Maximise stated and objective function correct Accept e.g. '$P_{\max}$ = …' or 'Max' but not 'Maximum P='.	