

Question 7 (Total 7 marks)

Part	Working or answer an examiner might expect to see	Mark	Notes
(a)	$y = C + Kx$, where C and K are constants	B1	This mark is given for stating a correct general equation
(b)	$200 = 650 \times 5 - (C + 650k)$ $-80 = 230 \times 5 - (C + 230k)$	M1	This mark is given for modelling the profit on the two days when pies are sold for £5
	$C + 650K = 3050$ $C + 230K = 1230$	M1	This mark is given for forming a pair of simultaneous equations to find values for C and K
	$420K = 1820 \Rightarrow K = \frac{13}{3}$ $C = 1230 - (230 \times \frac{13}{3}) = \frac{700}{3}$ Thus $y = \frac{13}{3}x + \frac{700}{3}$	A1	This mark is given for finding the values of C and K to find an equation in y
(c)	The gradient represents the cost of making each extra pie in £s	B1	This mark is given for a valid interpretation of the significance of the gradient
(d)	For n pies $5n - (\frac{13}{3}n + \frac{700}{3}) > 0$	M1	This mark is given for a method to find the number of pies to be made
	$\frac{2}{3}n - \frac{700}{3} > 0$ $n > \frac{700}{3} \times \frac{3}{2}$ $n = 350$ pies	A1	This mark is given for correctly finding the number of pies to be made