

1.

-
- (a) $0 + 2y = 12$ or $x + 2(0) = 12$ (M1)
 P(0, 6) (accept $x = 0, y = 6$) (A1)
 Q(12, 0) (accept $x = 12, y = 0$) (A1) (C3)

*Notes: Award (M1) for setting either value to zero.
 Missing coordinate brackets receive (A0) the first time this occurs. Award (A0)(A1)(ft) for P(0, 12) and Q(6, 0).*

- (b) $x + 2(x - 3) = 12$ (M1)
 (6, 3) (accept $x = 6, y = 3$) (A1)(A1) (C3)

*Note: (A1) for each correct coordinate.
 Missing coordinate brackets receive (A0)(A1) if this is the first time it occurs.*

[6]

2.

- (a) Gradient of $l_2 = \frac{0 - (-2)}{5 - 0}$ (M1)
 $= \frac{2}{5}$ (A1)
 Gradient of $l_1 = \frac{-5}{2}$ (A1) (C3)

- (b) $y = \frac{-5}{2}x + 7$ (A1)(A1)
 $2y = -5x + 14$
 $5x + 2y - 14 = 0$ (A1)(A1)(A1) (C5)

[8]

3.

- (a) L_1 has gradient 2 and L_2 has gradient $-\frac{1}{4}$. (A1)(A1) (C2)

Note: Award (A0)(A1)(ft) if the order of the gradients is reversed or both signs are wrong or both are reciprocals of the correct answer.

- (b) L_2 is drawn incorrectly. (A2) (C2)

- (c) The product of the gradients is $2 \times -\frac{1}{4} = -\frac{1}{2} \neq -1$. (M1)(A1) (C2)

*Note: Award (M1) for looking at product of gradients,
 (A1) for comparing something to -1 .*

- (d) The drawing should show a straight line passing through x and y intercepts at (4, 0) and (0, 1) respectively. (A1)(A1) (C2)

Note: Award (A1) for each intercept. If these are wrong but gradient is $-\frac{1}{4}$ then (A1). If correct line is very poorly drawn then (A1).

[8]

Equation	Diagram number		
$y = c$	2		(A2)
$y = -x + c$	3		(A2)
$y = 3x + c$	4		(A2)
$y = \frac{1}{3}x + c$	1		(A2) (C8)

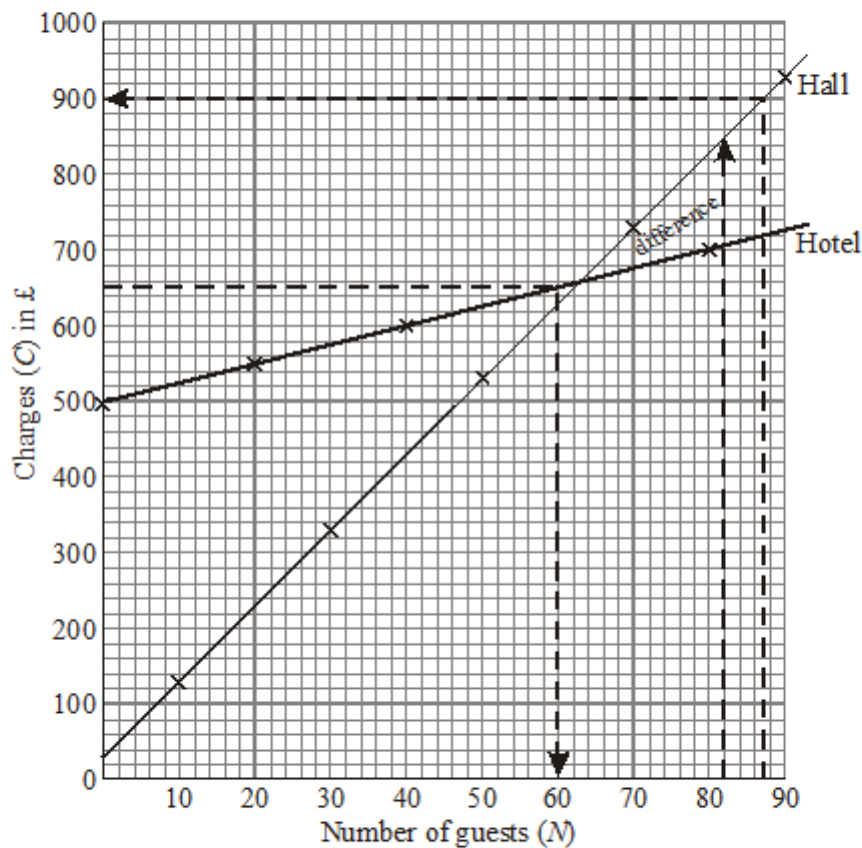
[8]

(a) (i)

<i>N</i>	10	30	50	70	90	
<i>C</i>	130	330	530	730	930	A2

Notes: Award [$\frac{1}{2}$ mark] for each correct bold entry and round down to a maximum of [2 marks].

(ii)



Notes: Award (M1) for both axes correctly labelled and with suitable scales.

Award [$\frac{1}{2}$ mark] for each correct point and round up to a maximum of [2 marks].

(iii) $C = 10N + 30$

(A1) 6

- (b) (i) “The local hotel will charge £500 plus half of five (or two and a half) times the number of guests” (or equivalent statement). (A2)

Note: Award (A1)(A0) if partly correct.

(ii)

<i>N</i>	0	20	40	80	
<i>C</i>	500	550	600	700	(A2)

Note: Award [$\frac{1}{2}$ mark] for each correct bold entry, and round up to a maximum of [2 marks].

- (iii) On same graph as for part (a) (ii). (M2) 6

Note: Award [$\frac{1}{2}$ mark] for each point correctly plotted, and round up to a maximum of [2 marks].

- (c) Explanations abound: Award marks only for any correct explanation arising from candidate’s own graph in parts (a) (ii) and (b) (iii). (R2) 2

Notes: Award (R1) for each correct point given. Maximum [2 marks].

- (d) (i) £900 (M1)(A1)
(ii) 60 guests (M1)(A1)
(iii) £145.00 (M1)(A1) 6

Notes: For parts (d) (i) to (d) (iii), follow through with candidate’s own graphs.

Answers given here are obtained by calculation and should serve only as a guide.