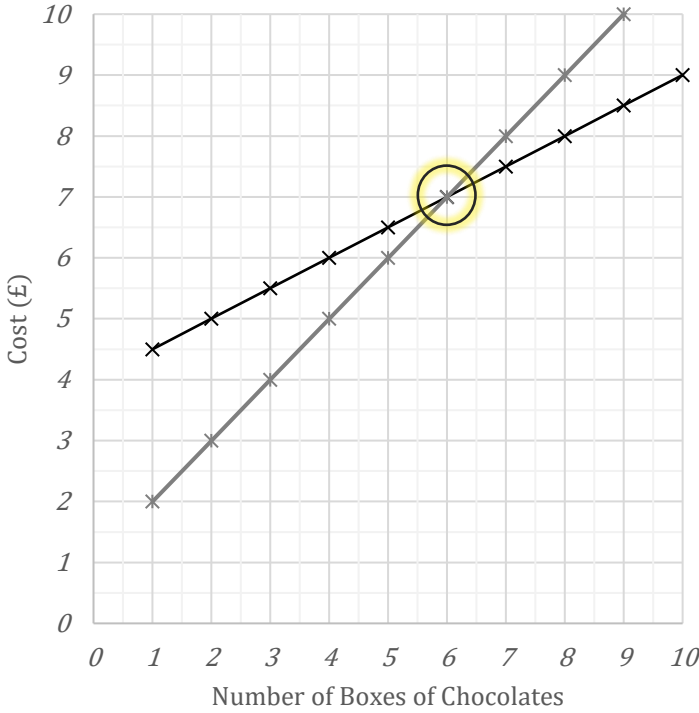


Solving Simultaneous Equations Graphically Mark Scheme														
1	Attempt to give coordinates of intercept as solutions	[1]												
	(2,2) $x = 2$ $y = 2$	[1] Correct coordinates												
2(a)	<table border="1"> <tr> <td>x</td> <td>-1</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>y</td> <td>2</td> <td>1</td> <td>0</td> <td>-1</td> <td>-2</td> </tr> </table>	x	-1	0	1	2	3	y	2	1	0	-1	-2	
x	-1	0	1	2	3									
y	2	1	0	-1	-2									
	Table completed as shown above	[1]												
2(b)														
	Graph plotted correctly, Shown above	[1]												
	Attempt to give coordinates of intercept as solutions	[1]												
	(1,0) $x = 1$ $y = 0$	[1]												
3(a)	<table border="1"> <tr> <td>x</td> <td>-2</td> <td>-1</td> <td>0</td> <td>1</td> <td>2</td> </tr> <tr> <td>y</td> <td>-0.15</td> <td>0.1</td> <td>0.35</td> <td>0.6</td> <td>0.85</td> </tr> </table>	x	-2	-1	0	1	2	y	-0.15	0.1	0.35	0.6	0.85	
x	-2	-1	0	1	2									
y	-0.15	0.1	0.35	0.6	0.85									
	Table plotted correctly as shown above.	[1]												

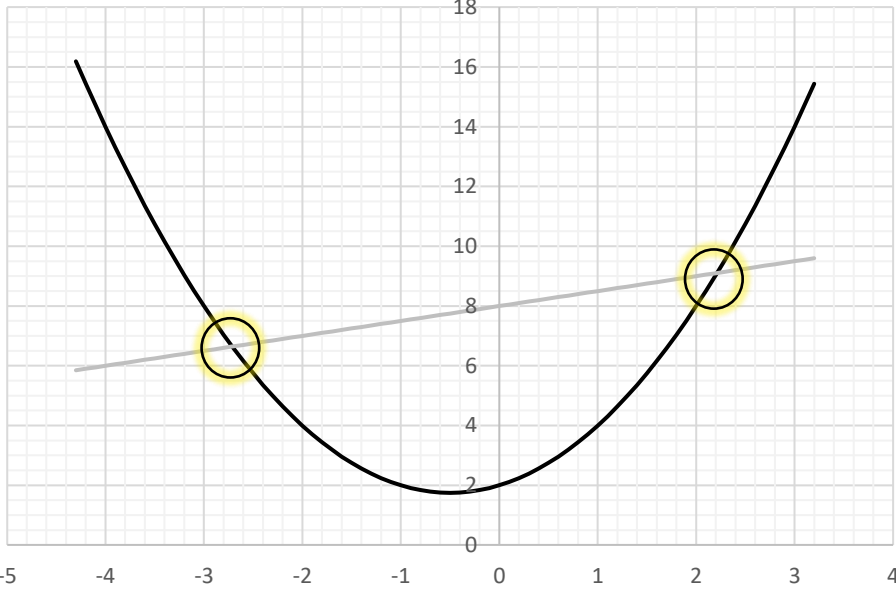
Turn over ►

3(b)	<p style="text-align: center;">$y = x - 0.4$</p> <p style="text-align: right;">$y = \frac{1}{4}x + 0.35$</p>	
	Graph plotted correctly as shown above	[1]
	Attempt to give coordinates of intercept as solutions	[1]
	$(1, 0.6)$ $x = 1$ $y = 0.6$	[1]
4(a)	<p style="text-align: center;">$y = 5x + 6$</p> <p style="text-align: right;">$y = 5x + 3$</p> <p style="text-align: left;">$y = 2x + 3$</p>	
	Graph plotted correctly as shown.	[1]
4(b)	Attempt to give coordinates of intercept as solutions	[1]
	$(-1, 1)$ $x = -1$ $y = 1$	[1]
4(c)	The two lines are parallel they both have the same gradient of 5.	[1] Any statement that indicates no intersection of the two lines.

Turn over ►

5	<p>ChocZ cost = $(0.5 \times \text{number of boxes}) + 4$ Sweets2Go cost = $(1 \times \text{number of boxes}) + 1$</p>	[1]																											
<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Number of boxes</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> </tr> </thead> <tbody> <tr> <td>ChocZ (£)</td> <td>4.50</td> <td>5</td> <td>5.50</td> <td>6</td> <td>6.50</td> <td>7</td> <td>7.50</td> <td>8</td> </tr> <tr> <td>Sweets2Go Cost (£)</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> </tr> </tbody> </table>			Number of boxes	1	2	3	4	5	6	7	8	ChocZ (£)	4.50	5	5.50	6	6.50	7	7.50	8	Sweets2Go Cost (£)	2	3	4	5	6	7	8	9
Number of boxes	1	2	3	4	5	6	7	8																					
ChocZ (£)	4.50	5	5.50	6	6.50	7	7.50	8																					
Sweets2Go Cost (£)	2	3	4	5	6	7	8	9																					
Using equations to find coordinates to plot for chocz and Sweets2go. As shown in the table above.		[2]																											
 <p>The graph plots the cost of two products against the number of boxes. The x-axis represents the number of boxes (0 to 10), and the y-axis represents the cost in pounds (£) (0 to 10). Two lines are shown: a black line for ChocZ and a grey line for Sweets2Go. The ChocZ line starts at (1, 4.5) and passes through (6, 7) and (10, 9). The Sweets2Go line starts at (1, 2) and passes through (6, 7) and (10, 10). The intersection point at (6, 7) is highlighted with a yellow circle.</p>																													
Correct lines plotted		[2] 1 mark for each line																											
6 th box has the same cost. 7 th box will be cheapest.		[1]																											

Turn over ►

6(a)	<table border="1" data-bbox="296 264 1329 387"> <tr> <td>x</td> <td>-4</td> <td>-3</td> <td>-2</td> <td>-1</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>y</td> <td>6</td> <td>6.5</td> <td>7</td> <td>7.5</td> <td>8</td> <td>8.5</td> <td>9</td> <td>9.5</td> </tr> </table>	x	-4	-3	-2	-1	0	1	2	3	y	6	6.5	7	7.5	8	8.5	9	9.5	
x	-4	-3	-2	-1	0	1	2	3												
y	6	6.5	7	7.5	8	8.5	9	9.5												
	Table completed as shown above	[1]																		
6(b)																				
	Attempt to give coordinates of intercept as solutions	[1]																		
	Identifying two solutions available.	[1]																		
	<p><i>Solution 1:</i> (-2.6, 6.6) $x_1 = -2.6$ $y_1 = 6.6$ <i>Solution 2:</i> (2.2, 9) $x_2 = 2.2$ $y_2 = 9$</p>	<p>[1] Solution 1 correct [1] Solution 2 correct</p>																		

END