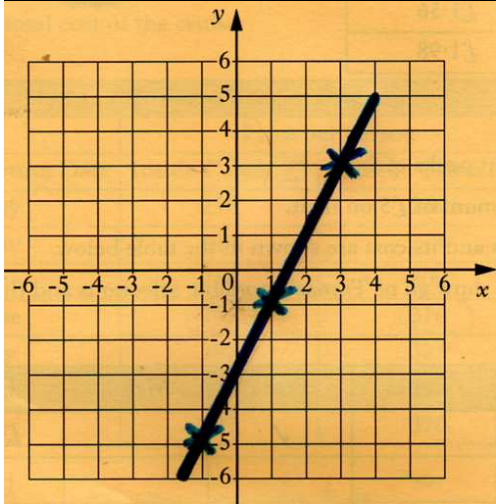
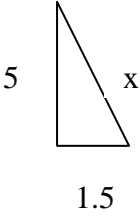


2010 GENERAL PAPER 2 SOLUTIONS

1	a) Range $310 - 198 = 112$ b) Median = 255	1 2																																					
2	Outside cabin $\pounds 310 \times 2 = \pounds 620$ Inside cabin $\pounds 275 \times 3 = \pounds 825$ 20% discount $825 \div 5 = \pounds 660$ Total cost $\pounds 620 + \pounds 660 = \pounds 1280$	3																																					
3	<table border="1"> <thead> <tr> <th>Apples</th> <th>Oranges</th> <th>Grapes</th> <th>Pears</th> <th>Melon</th> <th>Cost</th> </tr> </thead> <tbody> <tr> <td>✓</td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td>£4.01</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>✓</td> <td></td> <td></td> <td>£4.94</td> </tr> <tr> <td>✓</td> <td>✓</td> <td></td> <td></td> <td>✓</td> <td>£4.43</td> </tr> <tr> <td></td> <td>✓</td> <td></td> <td>✓</td> <td>✓</td> <td>£4.74</td> </tr> <tr> <td>✓</td> <td></td> <td></td> <td>✓</td> <td>✓</td> <td>£4.79</td> </tr> </tbody> </table>	Apples	Oranges	Grapes	Pears	Melon	Cost	✓	✓		✓		£4.01	✓	✓	✓			£4.94	✓	✓			✓	£4.43		✓		✓	✓	£4.74	✓			✓	✓	£4.79	4	
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y	-5	-1	3																																				
5	<p>2min $\rightarrow \frac{1}{2}$ mile or $S = D/T$ 4min $\rightarrow 1$ mile 60min $\rightarrow 15$ miles Speed is 15 mph < 20mph Therefore van is travelling at a safe speed</p>	<p>$= 0.5 \text{ mile} \div 2 \text{ min}$ $= 0.25 \text{ mile/min}$ $= 0.25 \times 60 \text{ mph}$ $= 15 \text{ mph} < 20 \text{ mph}$ Therefore safe speed</p>	3																																				
6	<p>a) $8(c - 3) + 5(c + 2)$ $= 8c - 24 + 5c + 10$ $= 13c - 14$</p> <p>b) $25 = 7x + 4$ $7x = 21$ $x = 3$</p>	3 2																																					

7	<p>13 = 3x 4 + 1 so 3 tickets will be free Pays for 10 tickets instead of 13 Cost 10 x £12.50 = £125</p>		3
8	<p>Total of angles 120 + 100 + 25 + 35 = 280 Angle for Conservatives 360 - 280 = 80 No of Conservative voters 80/360 x 1800 = 400</p>		3
9	<p>A = L x B 264 = L x 11 L = 264 ÷ 11 = 24 Perimeter 2 x 24 + 2 x 11 = 70 metres</p>		3
10	<p>Cos x° = 4.5/5.2 Cos x° = 0.865.. X = 30°</p>		3
11	<p>Measured distance = 5.5cm Actual distance 5.5 x 15km = 82.5km Bearing 360 - 30 = 330°</p>		
12	<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">  </div> <div> <p>BY Pythagoras $X^2 = 5^2 + 1.5^2$ $X^2 = 25 + 2.25$ $X^2 = 27.25$ $X = 5.22$</p> </div> </div> <p>Perimeter = 5.22 + 5.22 + 3 = 13.44 A pair will need 2 x 13.4 = 26.88cm</p>		4
13	<p>Volume = cross sectional area x length = $\frac{1}{2} \pi r^2 \times 7000$ = 0.5 x 3.14 x 100 x 7000 = 109900cm³</p>		3
14	<p>5% Of £360 = £18 Total cost of payment plan is 360 + 18 = £378</p> <p>Deposit $\frac{1}{5}$ of 360 = £72 Balance 378 - 72 = £306 Monthly payments 306 / 30 = £10.20</p>		4