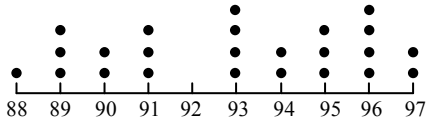


Qu	Give one mark for each •	Illustration for awarding mark
1	ans : 8.5 2 marks • <sup>1</sup> identifies quartiles • <sup>2</sup> calculates SIR	• <sup>1</sup> 11, 28 • <sup>2</sup> $(28 - 11) \div 2 = 8.5$
2	ans : $15p^2 - pq - 2q^2$ 2 marks • <sup>1</sup> multiplies out brackets • <sup>2</sup> simplifies	• <sup>1</sup> $15p^2 - 6pq + 5pq - 2q^2$ • <sup>2</sup> $15p^2 - pq - 2q^2$
3	ans: $y = 5 \sin 3x$ 3 marks • <sup>1</sup> knows to use max/min value • <sup>2</sup> recognizes shape • <sup>3</sup> realises 3 cycles	• <sup>1</sup> 5..... • <sup>2</sup> .....sin..... • <sup>3</sup> .....3x
4	ans: $23 - 6x$ 3 marks • <sup>1</sup> multiplies out bracket • <sup>2</sup> begins to simplify • <sup>3</sup> completes simplification	• <sup>1</sup> .....-12x + 15..... • <sup>2</sup> 23 ..... • <sup>3</sup> ..... - 6x
5	ans: 15.7 litres 5 marks • <sup>1</sup> uses correct radius and height • <sup>2</sup> knows how to find volume • <sup>3</sup> calculates volume of cylinder • <sup>4</sup> calculates volume of oil • <sup>5</sup> states volume in litres	• <sup>1</sup> $r = 10\text{cm}; h = 100\text{cm}$ • <sup>2</sup> $V = \pi r^2 h = 3.14 \times 10^2 \times 100$ • <sup>3</sup> $314\,00\text{cm}^3$ • <sup>4</sup> $314\,00 \div 2 = 157\,00\text{cm}^3$ • <sup>5</sup> 15.7 litres
6a	ans : dot plot drawn 2 marks •1 suitable scale •2 dots in correct places	•1  •2
b	ans: 2.5 3 marks •1 identifies upper and lower quartiles •2 knows how to find SIQR •3 answer	•1 95.5, 90.5 •2 $(95.5 - 90.5) \div 2$ •3 2.5
c	ans: $\frac{3}{4}$ 2 marks •1 correct numerator •2 simplifies fraction	•1 18 $\frac{3}{4}$ •2
7	ans: $(x + 4)(x - 7)$ 2 marks •1 one factor correct •2 second factor correct	•1 $(x + 4)$ ..... •2 ..... $(x - 7)$

<b>8</b>	<b>ans : <math>28^\circ</math></b> <b>3 marks</b> <ul style="list-style-type: none"> <li>•<sup>1</sup> calculates angle OBA</li> <li>•<sup>2</sup> calculates angle OBC</li> <li>•<sup>3</sup> calculates angle CBD</li> </ul>	<ul style="list-style-type: none"> <li>•<sup>1</sup> <math>28^\circ</math> (isosceles <math>\Delta</math>)</li> <li>•<sup>2</sup> <math>90^\circ - 28^\circ = 62^\circ</math> (angle in a semi-circle)</li> <li>•<sup>3</sup> <math>90^\circ - 62^\circ = 28^\circ</math> (tangent)</li> </ul>	
<b>9</b>	<b>ans : <math>\frac{(x-3)}{(x+4)}</math></b> <b>2 marks</b> <ul style="list-style-type: none"> <li>•<sup>1</sup> knows to factorise denominator</li> <li>•<sup>2</sup> cancels to answer</li> </ul>	<ul style="list-style-type: none"> <li>•<sup>1</sup> <math>(x+4)(x-3)</math></li> <li>•<sup>2</sup> <math>\frac{(x-3)}{(x+4)}</math></li> </ul>	
<b>10</b>	<b>ans : <math>\tan 225^\circ</math></b> <b>1 marks</b> <ul style="list-style-type: none"> <li>•<b>1</b> identifies ratio</li> </ul>	<ul style="list-style-type: none"> <li>•<b>1</b> <math>\tan 225^\circ</math></li> </ul>	
		<b>Total:</b>	<b>30marks</b>