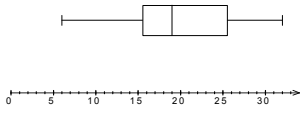
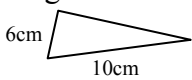


Intermediate 2 Prelim 2005/06 (Units 1,2 3) Marking Scheme Paper 1 Elgin Academy

Qu	Give one mark for each •	Illustration for awarding mark
1	ans: $y = x + 3$ 3 marks • ¹ finds gradient • ² finds y - intercept • ³ states equation	• ¹ $m = 1$ • ² $c = 3$ • ³ $y = x + 3$
2a	ans : stem and leaf drawn 3 marks • ¹ stem correct • ² ordered leaf • ³ key and n shown	• ¹ $\begin{array}{r l} 0 & 6 \\ 1 & 0\ 1\ 4\ 5\ 6\ 6\ 7\ 7\ 8\ 9 \\ 2 & 1\ 1\ 2\ 3\ 5\ 6\ 7\ 9 \\ 3 & 1\ 2 \\ \hline n = 21 & \quad 3 1 = 31 \end{array}$
b	ans: 15.5, 19, 25.5 3 marks • ¹ states lower quartile • ² states median • ³ states upper quartile	• ¹ 15.5 • ² 19 • ³ 25.5
c	ans: 5 2 marks • ¹ uses formula(stated of implied) • ² answer	• ¹ $(25.5-15.5)/2$ • ² 5
d	ans: 2 marks • ¹ correct construction of box plot • ² positioned on evenly distributed scale bar	• ¹ 
3	ans : $\frac{7}{18} \cdot \frac{1}{3} \cdot \frac{17}{90} \cdot \frac{4}{45}$ 3 marks • ¹ calculates total number of items sold • ² each item as fraction over total • ³ fractions simplified where applicable	• ¹ 90 • ² $\frac{35 \cdot 30 \cdot 17 \cdot 8}{90 \cdot 90 \cdot 90 \cdot 90}$ • ³ $\frac{7 \cdot 1 \cdot 17 \cdot 4}{18 \cdot 3 \cdot 90 \cdot 45}$
4	ans : $\frac{7}{2}$ 3 marks • ¹ simplifies numerator • ² simplifies denominator • ³ simplifies fraction	• ¹ $7\sqrt{2}$ • ² $2\sqrt{2}$ • ³ $\frac{7}{2}$
5a	ans: $3x^2 - 5x - 2$ 1 mark • ¹ correct multiplication of brackets	• ¹ $(3x^2 - 5x - 2)$
b	ans: $(x + 2)(x + 1)$ 4 marks • ¹ substitutes answer from part (a) (in brackets) • ² completes simplification • ³ one factor correct • ⁴ second factor correct	• ¹ $4x^2 - (3x^2 - 5x - 2) - 2x$ • ² $x^2 + 3x + 2$ • ³ $(x + 2).....$ • ⁴ $.....(x + 1)$

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<p>6a</p> <p>b</p>	<p>ans : (90,1) 1 mark</p> <p>•¹ answer</p> <p>ans : A (30,0.5) and C (150,0.5) 3 marks</p> <p>•¹ knowing exact value for $\sin x = 0.5$</p> <p>•² answer for A</p> <p>•³ answer for C</p>	<p>•¹ B (90,1)</p> <p>•¹ setting $\sin x = 0.5 \Rightarrow x = 30$</p> <p>•² A (30,0.5)</p> <p>•³ C (150,0.5)</p>
<p>7</p>	<p>ans : 8cm 4 marks</p> <p>•¹ knows that $\angle ORQ$ is right angled</p> <p>•² assembles facts in right-angled triangle</p> <p>•³ knows to use Pythagoras</p> <p>•⁴ answer</p>	<p>•¹ stated or shown in a diagram</p> <p>•² diagram - </p> <p>•³ $RQ^2 = 10^2 - 6^2$</p> <p>•⁴ 8 cm</p>
<p>8</p>	<p>ans : (5 - 3y) 2 marks</p> <p>•¹ factorises numerator</p> <p>•² cancels to simplify</p>	<p>•¹ $(5 - 3y)(5 + 3y)$</p> <p>•² $(5 - 3y)$</p>
		<p>Total 34 marks</p>