

Marking Schedule

Section A

Question 1	Achieved	Merit	Excellence
a)	212955		
b	5.54×10^5		
c	3.5375×10^5	403000-49250= 3.5375×10^5	
d	45/150	45/150=3/10	
e	221	15% of 260=260 × .15=39 Amt after discount=260-39=221	
Q2			
a	I= $40000 \times 3 \times .045=5400$ Total amount= $40000+5400= 45400$		
b	18459 or 3/8	$\frac{3}{8}$ of 49224= 18459	
c			$A=300000(1+.045)^9$ = \$445828.5421
d		$A=150000(1+.035/4)^{4 \times 9}$	$A=150000(1+.035/4)^{4 \times 9}$ = \$178550.9699 Or \$178550.97
Q3			
			cost=30+8×10+30=\$140 \$140+100= \$240 Cost +Profit Each trip= \$240/10= \$24(excl GST) Cost plus GST= \$27.60

Section B

Q1	Achieved	Merit	Excellence																											
a	26																													
b		The median age dropped as seen by the graph because a large number of babies were born making the median smaller.																												
c			The median age has been steady increasing apart from the baby boom period.																											
Q2																														
a																														
b	Median, Highest, lowest and range correct	<table border="1"> <thead> <tr> <th></th> <th>Dun</th> <th>Auc k</th> </tr> </thead> <tbody> <tr> <td>L.Val</td> <td>9</td> <td>11</td> </tr> <tr> <td>LQ</td> <td>13</td> <td>13</td> </tr> <tr> <td>Median</td> <td>15.5</td> <td>16</td> </tr> <tr> <td>H.Val</td> <td>17</td> <td>18.5</td> </tr> <tr> <td>UQ</td> <td>19</td> <td>23</td> </tr> <tr> <td>Mean</td> <td>14.83 33</td> <td>15.8 3</td> </tr> <tr> <td>Range</td> <td>10</td> <td>12</td> </tr> <tr> <td>Mode</td> <td>15,16, 17</td> <td>12,1 6,20</td> </tr> </tbody> </table>		Dun	Auc k	L.Val	9	11	LQ	13	13	Median	15.5	16	H.Val	17	18.5	UQ	19	23	Mean	14.83 33	15.8 3	Range	10	12	Mode	15,16, 17	12,1 6,20	
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d			Any two valid comparative statements about, medians, means range, highest and lowest values, shape. As the middle 50% overlap,																											

			we cannot make the call that the temperatures in Dunedin and Auckland are very different.
Q3			
a			Negative relationship. As house temperature increases, doctors' visits decrease.

Section C

Q1	Achieved	Merit	Excellence
1	$12p+9y$		
2	$10ab+b$		
3	h^5		
4		y^{20}	
Solve 1	$y=17-8=9$		
2	$3k=26-5$	$3k=26-5=21$ $k=21/3=7$	
3		$\frac{m-5}{7}=2$ $\frac{m-35}{7}=2$	$\frac{m-5}{7}=2$ $\frac{m-35}{7}=2$ $m-35=14$ $m=14+35=49$
Expand 1.	$4a+16$		
2.		$6x+6y-4x+4y$ $6x-4x+6y+4y$ $2x+10y$	
3.		$x^2+4x-8x-32$	$X^2+4x-8x-32$ $X^2-4x-32$
Factorise	$5(w+5)$		

1.			
2.		$(x+8)(x-7)$	
3.		$(x-5)(x+2)$	
Q2			
1.	$96/8=12$		$8x=96$ $x=96/8=12\text{cm}$

Section D

Q1	Achieved	Merit	Excellence
a	$x=\sqrt{(6)^2+(8)^2}$ $=\sqrt{36+64}=\sqrt{100}=10$		
b	18.734994 or 18.73	$x^2=(20)^2-(7)^2$ $x=\sqrt{400-49}=\sqrt{351}$ $=18.734994$ or 18.73	
c	$x=10 \div 0.5 = 5$		
Q2			
a	$x=7.366$ or 7.37cm	$x^2=(5.5)^2+(4.9)^2$ $x=\sqrt{54.26}$ $x=7.366$ or 7.37cm	
b	$x=8\text{cm}$	$x=\sqrt{(17)^2-(15)^2}$	$x=\sqrt{(17)^2-(15)^2}$ $=8\text{cm}$
Q3			
a		$\tan 42 = T/6.5$ $T = 5.9\text{m}(1\text{dp})$	$\tan 42 = T/6.5$ $T = 5.9\text{m}(1\text{dp})$ Yes can chop down the tree
b		$\cos w = 44/55 = 36.9^\circ(1\text{dp})$	

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