

Frequency Tables Mark Scheme												
1(a)	Most frequent shoe size is: size 5	[1]										
1(b)	Median shoe size is the 20 th data point which is: size 5	[1]										
1(c)	$(3 \times 4) + (4 \times 7) + (5 \times 15) \dots = 201$	[1] Sum of the mid point of the groups multiplied by the frequency.										
	$201 \div 40 = 5.025$	[1] divided by the total number of students										
2(a)	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Heights (cm)</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>$130 < h \leq 140$</td> <td>3</td> </tr> <tr> <td>$140 < h \leq 150$</td> <td>4</td> </tr> <tr> <td>$150 < h \leq 160$</td> <td>3</td> </tr> <tr> <td>$160 < h \leq 170$</td> <td>1</td> </tr> </tbody> </table>	Heights (cm)	Frequency	$130 < h \leq 140$	3	$140 < h \leq 150$	4	$150 < h \leq 160$	3	$160 < h \leq 170$	1	<p>[1] For two correct values</p> <p>[1] Full marks requires all four values to be correct</p>
Heights (cm)	Frequency											
$130 < h \leq 140$	3											
$140 < h \leq 150$	4											
$150 < h \leq 160$	3											
$160 < h \leq 170$	1											
2(b)	$140 < h \leq 150$	[1]										
2(c)	$140 < h \leq 150$ (148 cm)	[1]										
3(a)	Multiply the frequency by the number of times exercised , divided by the total number of students	[1]										
	$145 \div 50 = 2.9$	[1]										
3(b)	Median = 3	[1]										
4(a)	$(0 \times 2) + (1 \times 4) + (2 \times 17) \dots = 76$	[1] Sum of the extra toppings multiplied by the frequency.										
	$76 \div 35 = 2.17$	[1] divided by the total number of students										
4(b)	$910 \times \frac{4}{35} = 104$	[1]										
4(c)	Assumes everyone in the school eats pizza	[1]										
	The school follows the same distribution as the class	[1]										
5	$(24 \times 18) + (25 \times 19) + (26 \times 19) + (27 \times 20) + (28 \times 16) = 2337$	[1] Sum of the time taken multiplied by the frequency.										
	$\frac{2337}{90} = 25.97$	[1] divided by the total number of students										
6	$3 + 8 + 12 + x + y = 40, \quad x + y = 17$	[1] Setting up algebra equation										
	$(x + (2 \times 12) + (3y) + (4 \times 8) + (5 \times 3)) \div 40 = 2.9$ $x + 3y = 45$	[1] Setting up simultaneous equations										
	Using the two simultaneous equations we find that $x = 3$ and $y = 14$	[1] Two correct answers										

END