<table>
<tr><th colspan="3">Frequency Tables Mark Scheme</th></tr>
<tr><td>1(a)</td><td>Most frequent shoe size is: size 5</td><td>[1]</td></tr>
<tr><td>1(b)</td><td>Median shoe size is average of the 20^{th} and 21^{st} data points which is: size 5</td><td>[1]</td></tr>
<tr><td>1(c)</td><td>$(3 \times 4) + (4 \times 7) + (5 \times 15) \ldots . = 201$</td><td>[1] Sum of the mid point of the groups multiplied by the frequency.</td></tr>
<tr><td></td><td>$201 \div 40 = 5.025$</td><td>[1] divided by the total number of students</td></tr>
<tr><td>2(a)</td><td><table><tr><th>Age (years)</th><th>Frequency</th></tr><tr><td>12</td><td>5</td></tr><tr><td>13</td><td>2</td></tr><tr><td>14</td><td>3</td></tr><tr><td>15</td><td>2</td></tr></table></td><td>[1] For two correct values

[1] Full marks requires all four values to be correct</td></tr>
<tr><td>2(b)</td><td>13</td><td>[1]</td></tr>
<tr><td>2(c)</td><td>$(12 \times 5) + (13 \times 2) + (14 \times 3) + (15 \times 2) = 158$</td><td>[1]</td></tr>
<tr><td></td><td>$158 \div 12 = 13.2$</td><td>[1]</td></tr>
<tr><td>3(a)</td><td>Multiply the frequency by the number of times exercised, divided by the total number of students</td><td>[1]</td></tr>
<tr><td></td><td>$145 \div 50 = 2.9$</td><td>[1]</td></tr>
<tr><td>3(b)</td><td>Median $= 3$</td><td>[1]</td></tr>
<tr><td>4(a)</td><td>$(0 \times 2) + (1 \times 4) + (2 \times 17) \ldots . = 76$</td><td>[1] Sum of the extra toppings multiplied by the frequency.</td></tr>
<tr><td></td><td>$76 \div 35 = 2.17$</td><td>[1] Divided by the total number of students</td></tr>
<tr><td>4(b)</td><td>$910 \times \frac{4}{35} = 104$</td><td>[1]</td></tr>
<tr><td>4(c)</td><td>Assumes everyone in the school eats pizza</td><td>[1]</td></tr>
<tr><td></td><td>The school follows the same distribution as the class</td><td>[1]</td></tr>
<tr><td>5</td><td>$(24 \times 18) + (25 \times 19) + (26 \times 19) + (27 \times 20) + (28 \times 16) = 2337$</td><td>[1] Sum of the time taken multiplied by the frequency.</td></tr>
<tr><td></td><td>$\frac{2337}{90} = 25.97$</td><td>[1] divided by the total number of students</td></tr>
<tr><td>6</td><td>$3 + 8 + 12 + x + y = 40, \quad x + y = 17$</td><td>[1] Setting up algebra equation</td></tr>
<tr><td></td><td>$(x + (2 \times 12) + (3y) + (4 \times 8) + (5 \times 3)) \div 40 = 2.9$
$x + 3y = 45$</td><td>[1] Setting up simultaneous equations</td></tr>
<tr><td></td><td>Using the two simultaneous equations we find that $x = 3$ and $y = 14$</td><td>[1] Two correct answers</td></tr>
</table>

END