I.
1. B)
2. C)
3. D)
4. C)
5. A)
6. D)
7. B)
8. C)
9. C)

II.
(a) Wing length $X$ has the $N(61.2, 1.8)$ distribution. So we want the area under the normal curve such that $X > 65$. Equivalently, that is

$$Z = \frac{X - 61.2}{1.8} > \frac{65 - 61.2}{1.8} = 2.11$$

From the standard normal table, this area is given as $1 - 0.9826 = 0.0174$. About 1.74% of male finches have wing lengths exceeding 65 mm.

(b) We want the $X$ with area 0.02 to its right, or area 0.98 to its left. From the table, $Z = 2.06$ is found to be the entry with left area closest to 0.98. So

$$X = 61.2 + (1.8)(2.06) = 64.9\text{ mm}$$

III.
(a) The proportion of males that are Democrats is $300/1000 = 30\%$

(b) The proportion of Democrats that are male is $300/900 = 33.3\%$

(c) The proportion of all voters who are male and Democrats is $300/2000 = 15\%$

IV.
There are many possible solutions. Here is just one of them.

Supporting Staff

<table>
<thead>
<tr>
<th></th>
<th>Avg. Hourly Salary</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>$12</td>
<td>20</td>
</tr>
<tr>
<td>Women</td>
<td>$16</td>
<td>80</td>
</tr>
</tbody>
</table>

Professional Staff
<table>
<thead>
<tr>
<th>Avg. Hourly Salary</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>$32</td>
</tr>
<tr>
<td>Women</td>
<td>$36</td>
</tr>
</tbody>
</table>

The overall average salary for men is \((12 \times 20 + 32 \times 80)/100 = 28\). The overall average salary for women is \((16 \times 80 + 36 \times 20)/100 = 20\).