Red Bird, Yellow Bird, Blue Bird and Black Bird are angry with the pigs. The pigs stole the bird’s eggs. The birds want their eggs back and will stop at nothing to get them back. The flight path of the birds can be modeled with a parabola. Use “x” as the distance and “y” as the height.

Your group must answer the following questions for each bird.

1. What is the maximum height the bird flew?
2. What was the total distance the bird traveled?
3. What is the equation in standard and vertex form for the path the bird flew?

Next, determine which bird flew the highest and traveled the furthest.

Finally, figure out which bird hit the following pigs. You must show it both graphically and algebraically.

King Pig located at point (21, 19.5)  
Moustache Pig located at point (9, 21)
Poster Check List:

- We have included a graph for every bird’s path (everything is labeled, roots, vertex and axis of symmetry)
- We have included one big graph with all the birds’ paths together (labeled)
- All calculations are shown on our poster (no calculations are left out)
- All questions are written and answered on our poster (full sentences with correct spelling and punctuation)
- Our poster has a title (artistically done with color)
- Our poster has decorations (with an overarching theme, colors matching and is thoughtfully planned)
- Organized (looks neat, everything has its place and all writing is legible)
Red Bird starts his flight from point (10, 0). His flight path reaches a maximum height of 18 yards and lands at point (38, 0).

Maximum Height: ___________  Axis of Symmetry: ___________  Distance Traveled: ___________

Standard Form: _______________________________  Vertex Form: _______________________________
Yellow Bird’s flight path can be modeled by the quadratic equation \( y = -x^2 + 14x - 24 \).

Maximum Height: ___________  Axis of Symmetry: ___________  Distance Traveled: ___________

Standard Form: ___________________________  Vertex Form: ___________________________
Blue Bird

Blue Bird's flight is represented by the graph below.

Maximum Height: ___________ Axis of Symmetry: ___________ Distance Traveled: ___________

Standard Form:_____________________________ Vertex Form:_____________________________

1st ED
Black Bird

The table below contains partial data points of Black Bird’s trajectory.

<table>
<thead>
<tr>
<th>x</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
</tr>
</thead>
<tbody>
<tr>
<td>y</td>
<td>0</td>
<td>7.5</td>
<td>14</td>
<td>19.5</td>
<td>24</td>
<td>27.5</td>
<td>30</td>
<td>31.5</td>
<td>32</td>
<td>31.5</td>
<td></td>
</tr>
</tbody>
</table>

Maximum Height: ___________  Axis of Symmetry: ___________  Distance Traveled: ___________

Standard Form:_____________________________  Vertex Form:_____________________________