



ANGRY BIRDS

2ndED

"The Parabolic Edition"



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.

First, each student in your group will be assigned a bird. Each member will answer the following questions for their assigned bird.

1. What is the maximum height your bird flew?
2. What was the total distance your bird traveled?

Next, determine whose bird flew the highest and traveled the longest.

Finally, figure out which bird hit the following pigs.



1. King Pig located at point (22, 20)



2. Moustache Pig located at point (11, 16)?



Project Rubric

POSTER CHECK LIST:

Make sure your poster includes the following by checking off everything in the list below.

- ☐ OUR POSTER HAS A TITLE (artistically done with color)
- ☐ 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 BIRD'S 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 w/correct spelling and punctuation)
- ☐ MY POSTER HAS DECORATIONS (with an overarching theme, colors matching, and is thoughtfully planned)
- ☐ ORGANIZED (Looks neat, everything has it's place and all writing is legible!)

PRESENTATION CHECK LIST:

Make sure your presentation is thoughtfully planned. You may use songs, customs, or props for your presentation.

- ☐ OUR PRESENTATION WILL BE THROUGH A PLAY (A funny, thoughtful, engaging presentation is in place, your group acts out your parts in an entertaining fashion.)
- ☐ EACH OF OUR MEMBERS KNOWS WHAT TO SAY AND WHEN TO SAY IT
(Each member explains in great detail how they found the height and the distance their bird traveled. All members of the group have practiced what they will say and know in what order they will say it.)

Your grade will be based on the following

- (0-59 POINTS) LESS THAN 50% OF THE WORK IS DONE CORRECTLY.
- (60-69 POINTS) ATLEAST 50% OF THE WORK IS DONE CORRECTLY, SOME WORK IS EVIDENT.
- (70-79 POINTS) MORE THAN 50% OF THE WORK IS DONE CORRECTLY. MOST GRAPHS ARE CORRECT, EXPLANATIONS AND SOME ILLUSTRATIONS ARE VISIBLE.
- (80-89 POINTS) MORE THAN 90% OF THE WORK IS DONE CORRECTLY. ALL GRAPHS ARE CORRECT, EXPLANATIONS, CALCULATIONS AND ILLUSTRATIONS ARE VISIBLE.
- (90-100 POINTS) ALL WORK IS CORRECT AND COMPLETE. POSTER IS NEAT, ORGANIZED AND FULL OF COLOR.



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Blue Bird

NAME: _____

Blue Bird starts his flight from point (6, 0). His flight path reaches a maximum height of 22 yards and lands at point (26, 0).



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



Black Bird

NAME: _____

Black Bird's flight path can be modeled by the quadratic equation $y = -x^2 + 16x - 39$.



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

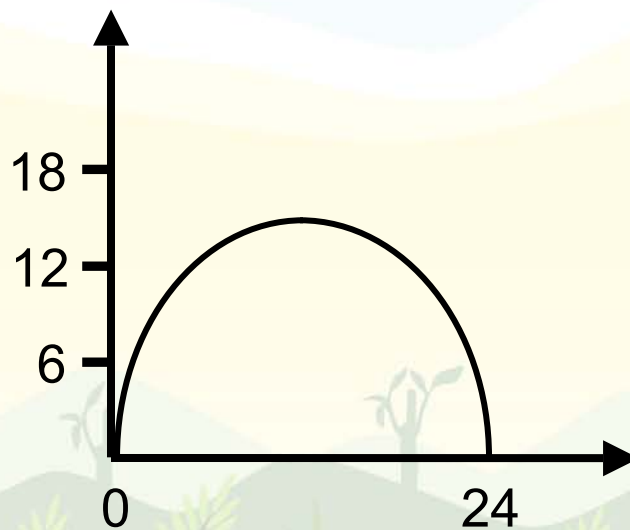


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Red Bird

NAME: _____

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



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



Yellow Bird

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NAME: _____

The table below contains partial data points of Yellow Birds trajectory.

X	12	13	14	15	16	17	18	19	20	21	22
y	0	11	20	27	32	35	36	35			



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SERIES

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