

Analysis of Parabolas Project

The task

1. Using an electronic picture taking device (cell phone, digital camera), take pictures of at least 5 shapes that have the characteristic of a parabolic shape.

-2 pictures must have the vertex as a minimum

-2 pictures must have the vertex as a maximum

2. At home, print your photos on “normal paper”.

3. Overlay graph paper on the photo and trace out the parabolic shape.

4. Place the x and y axis in an appropriate place

- you must have four pictures with vertices in different quadrants

- you must have one picture with the vertex on the x and/or y axis

5. Determine the characteristics of each parabola and describe them using correct terminology (axis of symmetry, domain, range, vertex, y-intercepts, x-intercepts)

6. Write each parabola in the forms:

$$y = a(x - h)^2 + k$$

and

$$y = ax^2 + bx + c$$

Turn in

- your photos and the traced parabola
- your descriptions of each parabola
- your representations of the parabolas in function form

Marks

1. At least five parabolas	0	1
2. Two pictures have the vertex as a minimum	0	1
3. Two pictures have the same vertex as a maximum	0	1
4. Four pictures have vertices in different quadrants	0	1
5. One picture has a vertex on x and/or y axis	0	1
6. All pictures have parabolic shape	0	1

7. Accurate equations	0	1	2	3
8. Work shown	0	1	2	3
9. Characteristics of each parabola listed and accurate	0	1	2	3
10. Creative pictures	0	1	2	3
11. Neat presentation	0	1	2	

Total Marks: 20

Your mark: _____