**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 = ax2 + 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:\_\_\_\_\_\_\_\_**