

# Elliptical Templates Project

## Grading Rubric

Template: \_\_\_\_\_ Name: \_\_\_\_\_

### Values (15 points)

Total: \_\_\_\_\_

1.  $a = \frac{1}{2}$  of minor axis (3 Points) \_\_\_\_\_
2.  $b = \frac{1}{2}$  of major axis (3 Points) \_\_\_\_\_
3.  $c$  = distance from center to foci (3 Points) \_\_\_\_\_
4.  $p$  = pipe diameter (2 Points) \_\_\_\_\_
5.  $m$  = pitch of roof (2 Points) \_\_\_\_\_
6. Template Number (2 points) \_\_\_\_\_

### Equation (10 Points)

Total: \_\_\_\_\_

1. Graphical form: (2 Points) \_\_\_\_\_
2. Equation Correct and typed (8 points) Max points of 3 if not typed. \_\_\_\_\_

### Method (30 points)

Total: \_\_\_\_\_

1. Shows proper algebraic work for calculating “a” (4 points) \_\_\_\_\_
2. Shows proper algebraic work for calculating “b” (4 points) \_\_\_\_\_
3. Shows proper algebraic work for calculating “c” (4 points) \_\_\_\_\_
4. Shows proper algebraic work for calculating “p” (3 points) \_\_\_\_\_
5. Uses applicable illustrations to help visualize methods used (15 points) \_\_\_\_\_

3 Computerized illustrations, correctly labeled, corresponds to algebraic work for ease of understanding – 15 points

3 Neat, non-computerized illustrations, correctly labeled, corresponds to algebraic work for ease of understanding – 10 points

2 Computerized illustrations and correctly labeled, does not correspond to algebra – 8 points

2 Neat, non-computerized illustrations and correctly labeled, does not correspond to algebra – 6 points

3 Freehand illustrations, correctly labeled, corresponds to algebraic work for ease of understanding – 4 points

2 Freehand illustrations and correctly labeled, does not correspond to algebra – 2 points

### Appearance (25 points) – Teacher’s Judgment

Total: \_\_\_\_\_

1. Neatly adds Color (5 points) \_\_\_\_\_
2. Illustrations are color coded to correspond with work and/or explanation (5 points) \_\_\_\_\_
3. Layout (10 points) – Process flows, organized, typed, understandable, etc  
(5 point penalty if too wordy) \_\_\_\_\_
4. Template hole is smooth and proportional, not jagged (5 points) \_\_\_\_\_

### Exactness (20 points)

Total: \_\_\_\_\_

1. Pitch triangles are proportionate and secure (5 points) \_\_\_\_\_
2. Accuracy of pipe’s fit (15 points) \_\_\_\_\_
  - Perfect fit – Less than 2 mm error (15 points)
  - Average fit – Between 2mm and 4 mm error (10 points)
  - Poor fit – Between 4 mm and 6 mm error (5 points)
  - Bad Fit – Between 6 mm and 8 mm error(2 points)
  - Not Scorable – Greater than 8 mm error or positioned incorrectly

### Grand Total:

\_\_\_\_\_