

## Coding Opaque Triangles

1. Copy text from <http://steamcoded.org/graphpaper4q.svg.txt> and paste into an editor, and save as triangles.svg  
Note: this file will adjust SVG coordinates to be like a normal piece of graph paper
2. On line 27, create a triangle from points (0,400), (400,-400), and (-400,-400) use the <path> element with id and style attributes as shown (M & L must be upper case)  

```
<path id="triangle" d="M0,400L400,-400L-400,-400z" style="fill:purple;fill-opacity:0.2;stroke:white;stroke-width:4px;" />
```
3. Reuse the triangle with a <use> element and scale it by  $7/8 = 0.875$ , then translate it by -50 (400/8) in both the x and y directions as shown:  

```
<use xlink:href="#triangle" transform="translate(-50,-50) scale(0.875)" />
```
4. Copy the <use> element of step 3 and paste on the next line, then change the transform attribute to translate it by 50 in the x direction and -50 in the y direction  
hint: transform=translate(50,-50) scale(0.875)"
5. Copy the 2 lines of code from steps 3 and 4 and paste on the next line, then change the transform attributes to scale by  $6/8 = 3/4 = 0.75$  and translate by +/- 100 (400/8)\*2  
hint: change the 50 to 100 but don't change the sign
6. Paste the code again, then change the transform attributes to scale by  $5/8 = 0.625$  and translate by +/- 150 (400/8)\*3
7. Paste the code again, then change the transform attributes to scale by  $4/8 = 1/2 = 0.5$  and translate by +/- 200 (400/8)\*4
8. Paste the code again, then change the transform attributes to scale by  $3/8 = 0.375$  and translate by +/- 250 (400/8)\*5
9. Paste the code again, then change the transform attributes to scale by  $2/8 = 1/4 = 0.25$  and translate by +/- 300 (400/8)\*6
10. Paste the code again, then change the transform attributes to scale by  $1/8 = 0.125$  and translate by +/- 350 (400/8)\*7
11. Change the style attribute of the <path> element with id="triangle" to be stroke:none instead of stroke:white
12. Hide the grid by changing the style attribute of the group with id="grid" to be style="display:none;" instead of style="display:initial;"
13. Find the group <g> element: <g style="opacity:0.5;stroke:black;stroke-width:2px;"> and change the opacity from 0.5 to 1, then change the stroke-width to 4px