

Exploring Spike Island: Transformations and Symmetry



Exploring Spike Island: Transformations and Symmetry

Complete the following tasks with your copy of the Spike Island photo

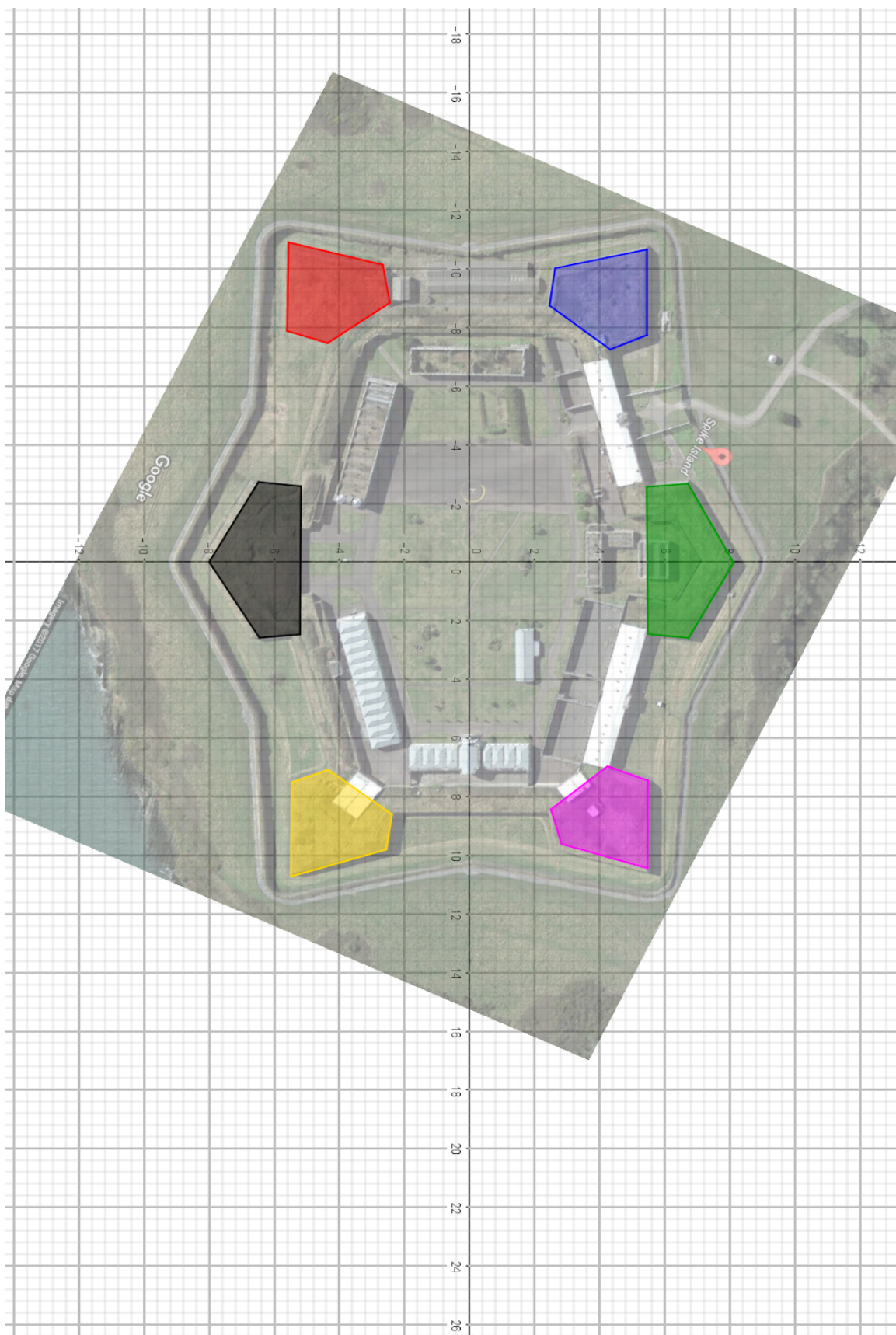
1. How many axes of symmetry does the Fort have, if any?
2. Measure the angle at each of the four corners (top left, top right, etc...).

What do you conclude? Do you think this pattern will be found elsewhere? Point these out on your picture.

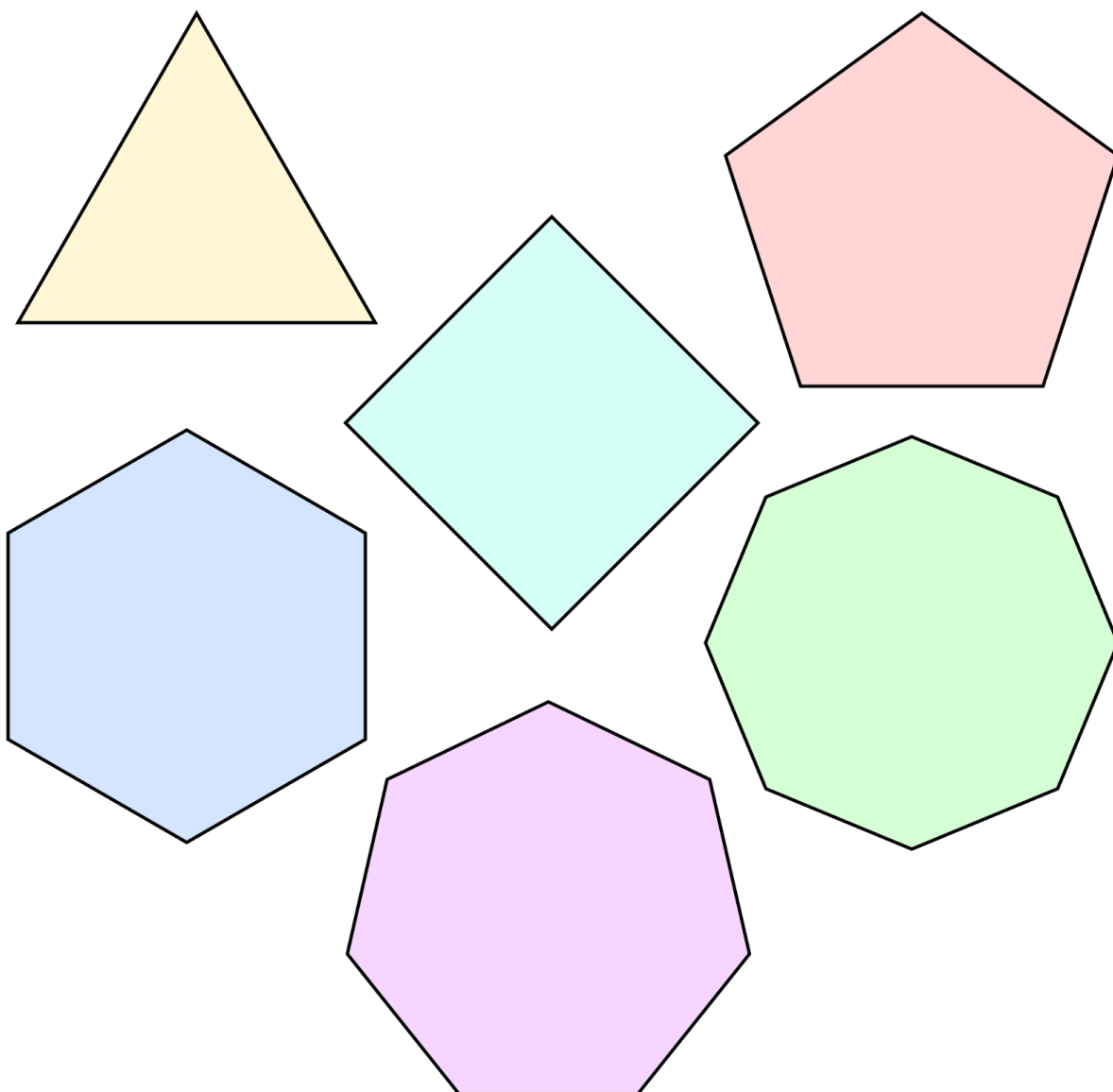
3. The British loved beauty in building and even though this was a military building, they still tried to make it beautiful by their use of symmetry.

The ultimate test of beauty is the 'Golden Ratio' which is approximately 1.618. Measure the length and width of the fort and investigate if the Golden Ratio is present here.

Exploring Spike Island: Transformations and Symmetry



Exploring Spike Island: Transformations and Symmetry



Exploring Spike Island: Transformations and Symmetry

Answers to Regular Polygons Questions (slides 10/11)

Shape	Sum of interior angles	Size of each angle	Axes of Symmetry
Triangle	180°	60°	3
Square	360°	90°	4
Pentagon	540°	108°	5
Hexagon	720°	120°	6
Heptagon	900°	$128.57...^{\circ}$	7
Octagon	1080°	135°	8
Any Polygon	$(n - 2) \times 180$	$\frac{(n - 2) \times 180}{n}$	n