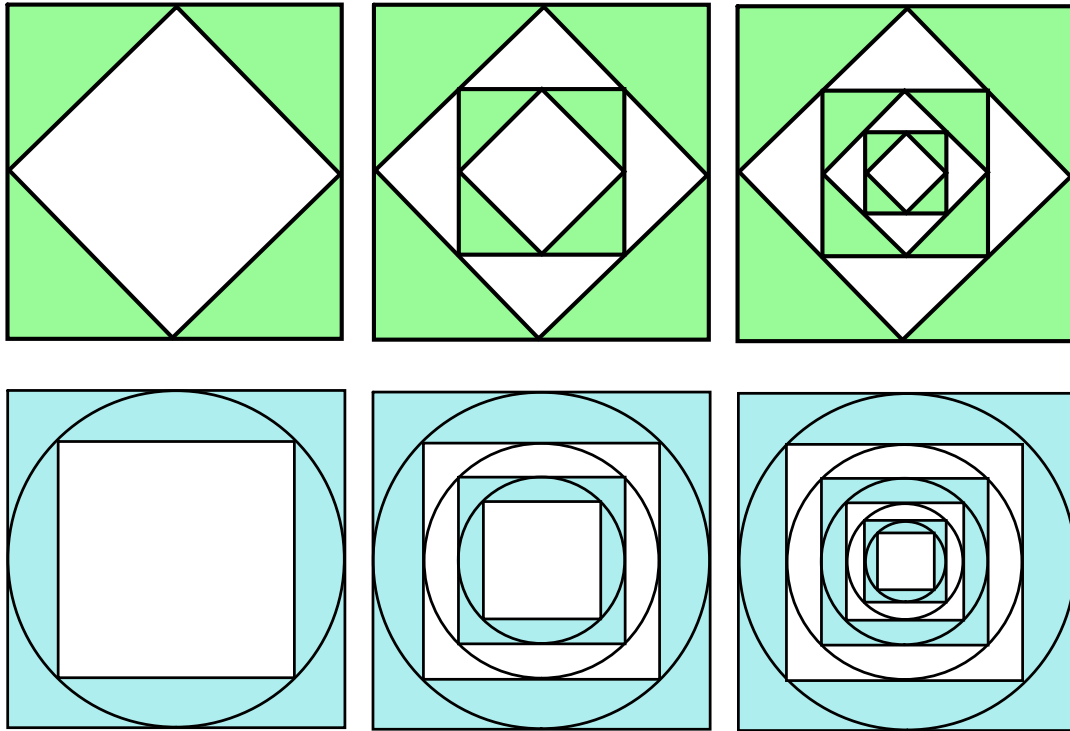
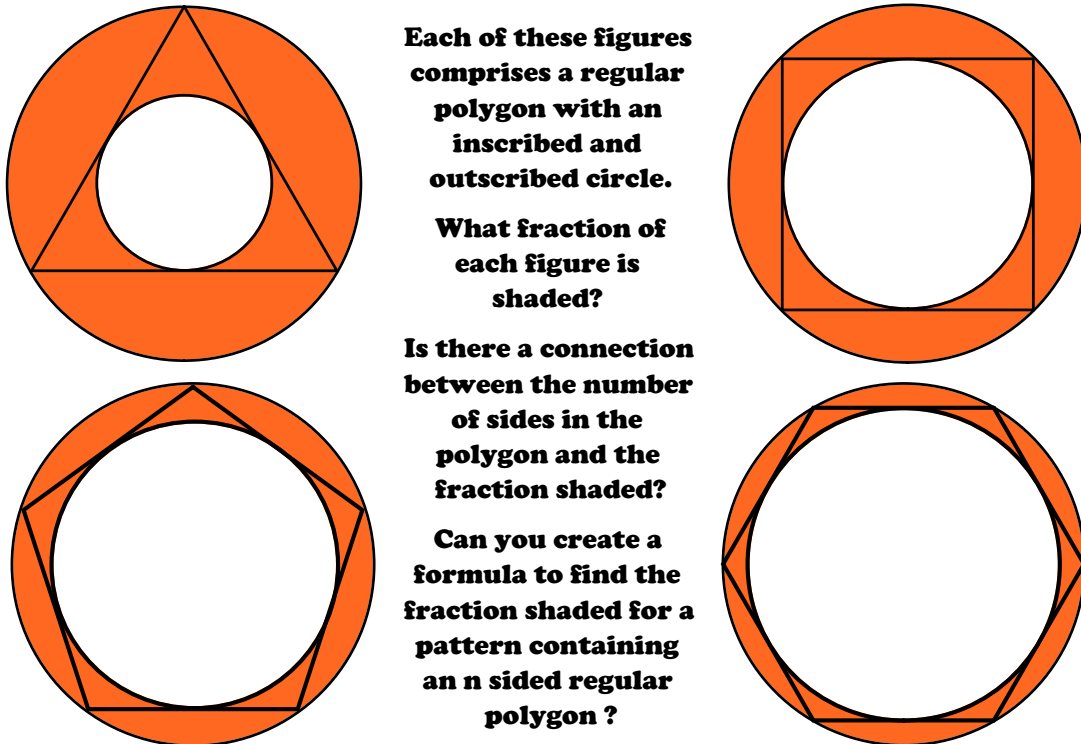


What fraction is shaded?



If we continued these patterns on, what fraction of the fourth figures would be shaded? If we carry on to infinity, what fraction of the 'final' figures would be shaded?



Each of these figures comprises a regular polygon with an inscribed and outscribed circle.

What fraction of each figure is shaded?

Is there a connection between the number of sides in the polygon and the fraction shaded?

Can you create a formula to find the fraction shaded for a pattern containing an n sided regular polygon ?

We are aiming to paint more problems, like those above, along the remainder of the lunch queue corridor and on other wall spaces around our school. Any students who are interested in getting involved should speak to their maths teacher or see Mr Ely.