

Consider the image below. This can be created with two values of  $k$ , what are they?  $k = \underline{\quad}$  or  $k = \underline{\quad}$ .

**Account for the vertices by considering how they appear connected to one another via vertex loops of various kinds.**

How many ribbons do you see? \_\_\_\_\_ How many vertices wide are the ribbons? \_\_\_\_\_ Do the ribbons have ends or are they without ends? \_\_\_\_\_ How many vertices are accounted for by ribbons? \_\_\_\_\_

How many loops with more than two vertices do you see that are NOT ribbons? \_\_\_\_\_ (Is that "square looking" quadrangle in the middle really a square?) How many vertices are accounted for by these loops? \_\_\_\_\_

How many are paired vertices? \_\_\_\_\_ How many vertices are accounted for by these paired vertices? \_\_\_\_\_

How many identity vertices are in the image? \_\_\_\_\_ Have you now accounted for all 32 vertices? \_\_\_\_\_

