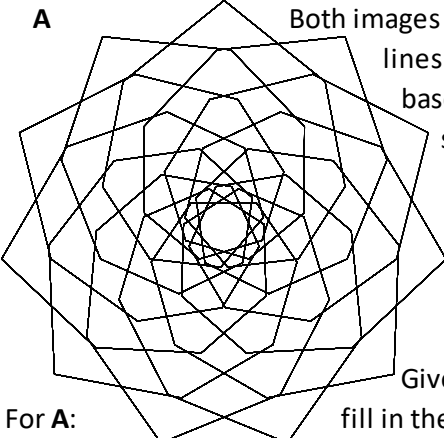


Comparative Image Detective Challenge Questions

The five paired images on the next two pages allow you to test your understanding of the basic attributes of **ESA**, in particular, the meanings of ***n***, ***S***, ***P***, and ***J*** as well as VCF, SCF, and first cycle. When each one is printed six to a page (landscape, with 0.25" margins on all sides), the individual paired images are great handouts and small enough that you can use a business or credit card as a straight-edge to determine the jump pattern in the ***n***,***J***-star vertex frame. The first three print as black and white, but the last two should be printed in color so that the **red** parts are visible.

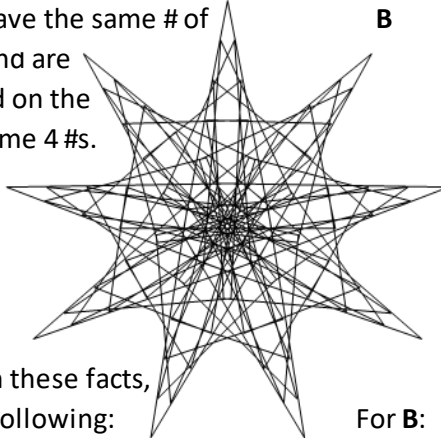
1. *Examines ***n***, ***S***, ***P***, and ***J***.* (Detailed answers for this pair, which can be printed six to a page and are suitable to provide students as handouts, are provided at the end of the book. These answers provide a roadmap to answer the other five versions.)

A



For **A**:
n ***S*** ***P*** ***J***

B



For **B**:
n ***S*** ***P*** ***J***

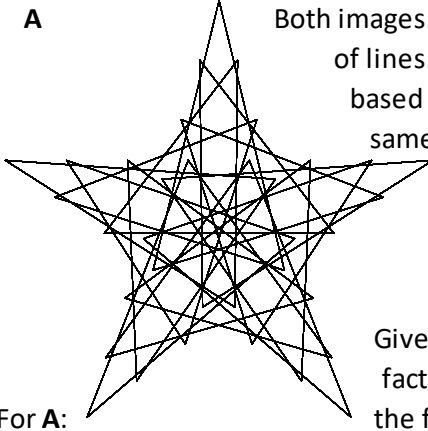
Both images have the same # of lines and are based on the same 4 #s.

Given these facts, fill in the following: Lines:

Circle) The 1st line ends: To the R/L of center for **A**; To the R/L of center for **B**.

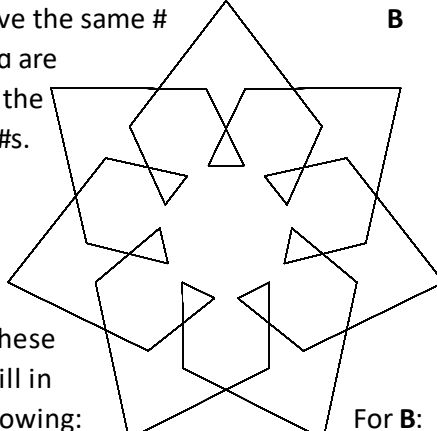
2. *Examines ***n***, ***S***, ***P***, and ***J***.* The second version is a bit easier than the first and can be attacked by younger students, especially if they work together, or by older students who have not seen 1.

A



For **A**:
n ***S*** ***P*** ***J***

B



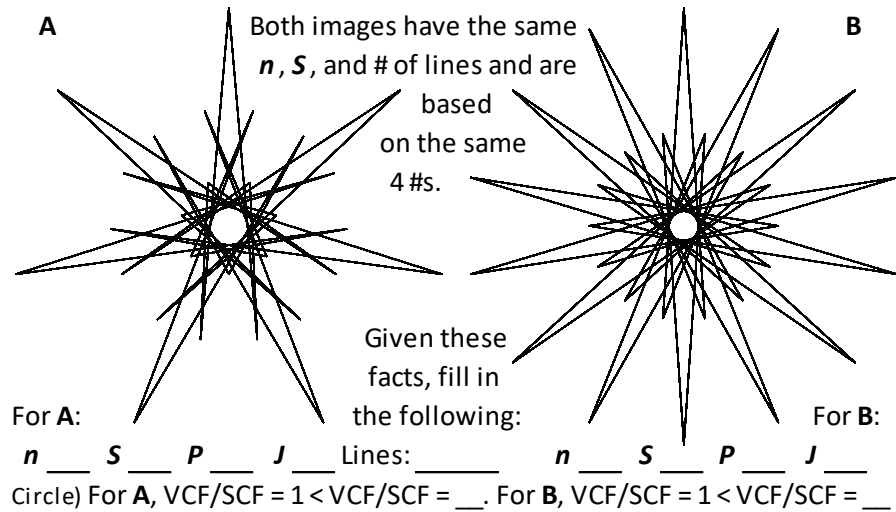
For **B**:
n ***S*** ***P*** ***J***

Both images have the same # of lines and are based on the same 4 #s.

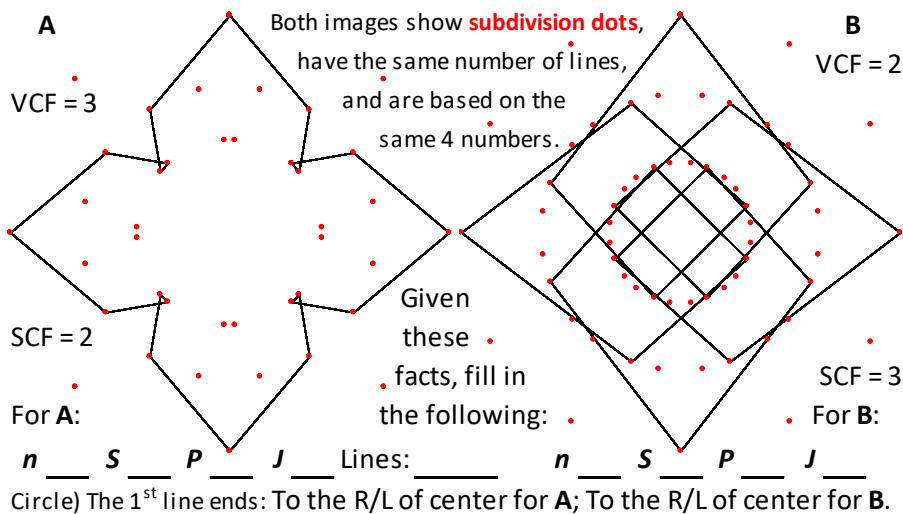
Given these facts, fill in the following: Lines:

Circle) The 1st line ends: To the R/L of center for **A**; To the R/L of center for **B**.

3. This pair examines the difference between Vertex Common Factor, $VCF = GCD(n, J)$, and Subdivision Common Factor, $SCF = GCD(n \cdot S / VCF, P)$.



4. Examines VCF and SCF using **subdivision dots**.



5. Emphasizes that the number of lines in a cycle is $S/(GCD(S, P))$.

