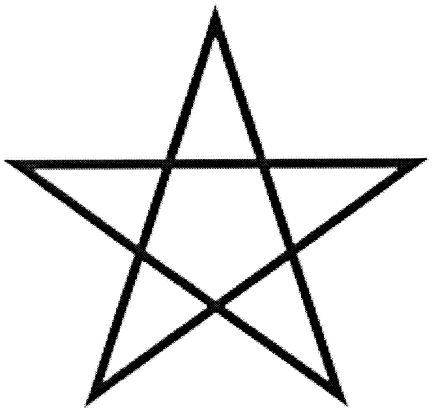
The Pentagram



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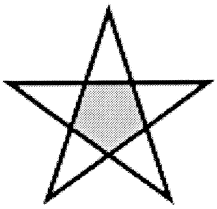
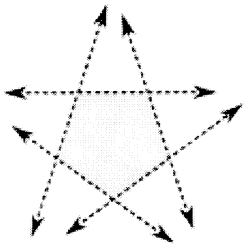
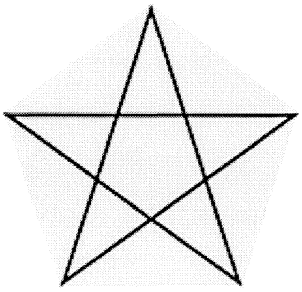
In fact, this simple figure is quite amazing.

Inside a Pentagram is a Penta**gon**





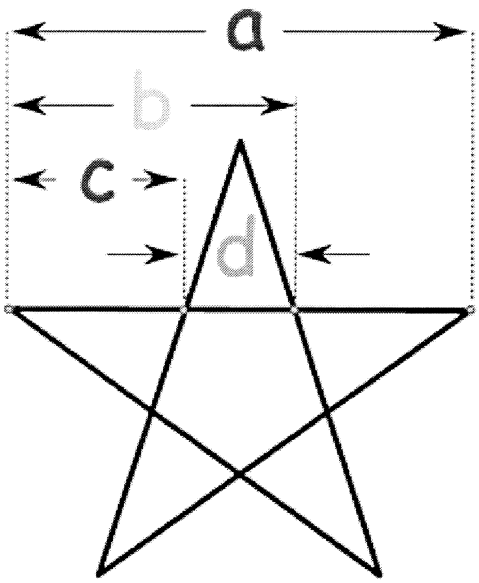
You can make a pentagram by first drawing a pentagon , then extending the edges.



Or by drawing lines from corner to corner inside a pentagon.

Polygon

In fact a Pentagram is a special type of polygon called a "star polygon".



Ratios

The pentagram has a special number hidden inside called the Golden Ratio , which equals **approximately 1.618**

- a/b = 1.618...
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When I drew this, I measured the 4 lengths and I got a=216, b=133, c=82, d=51. So let's check to see what the ratios are:

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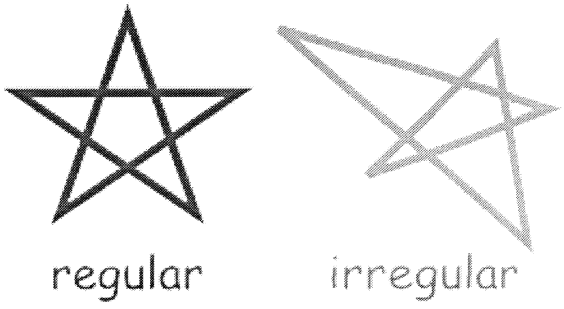

Extend using
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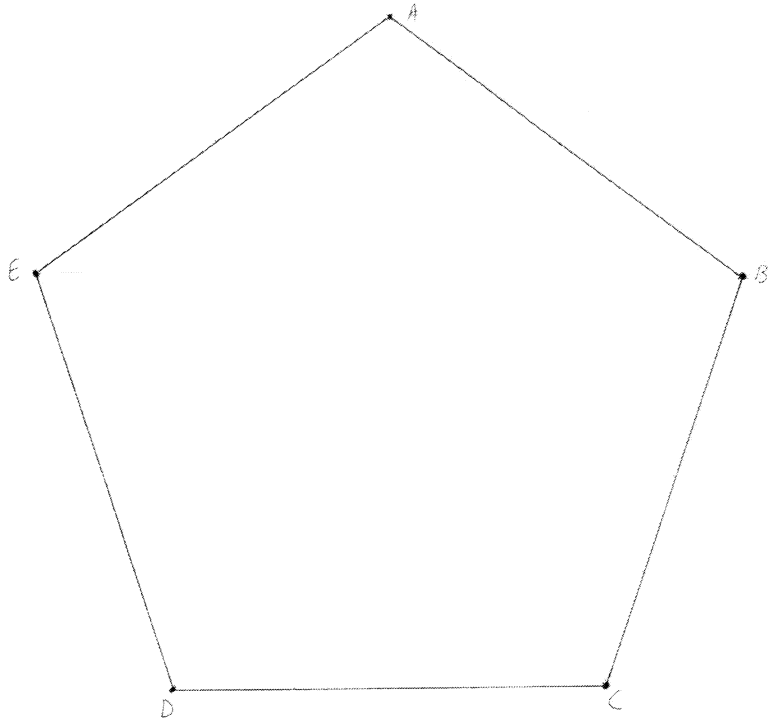
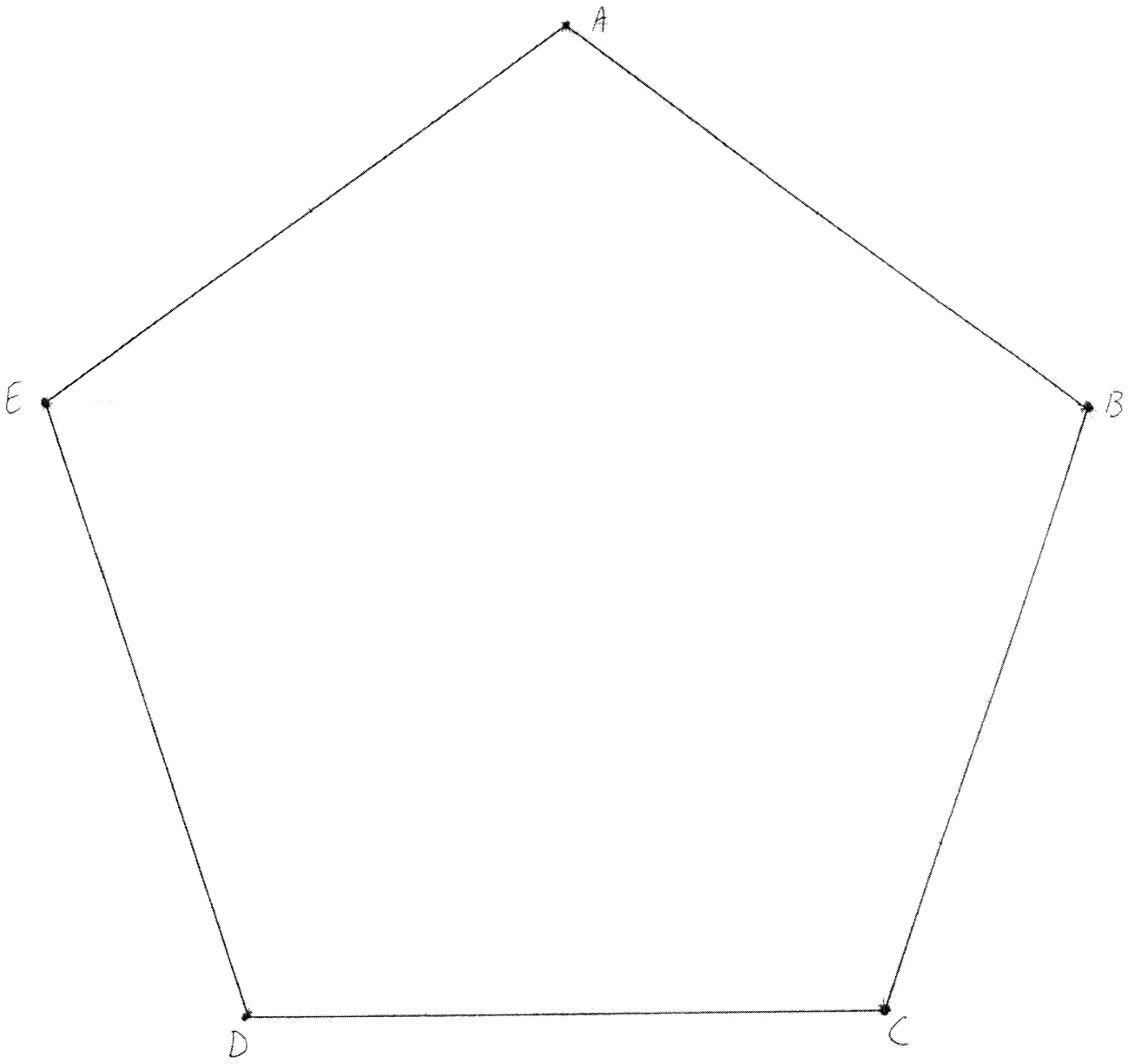




Connect $\overline{EB}$

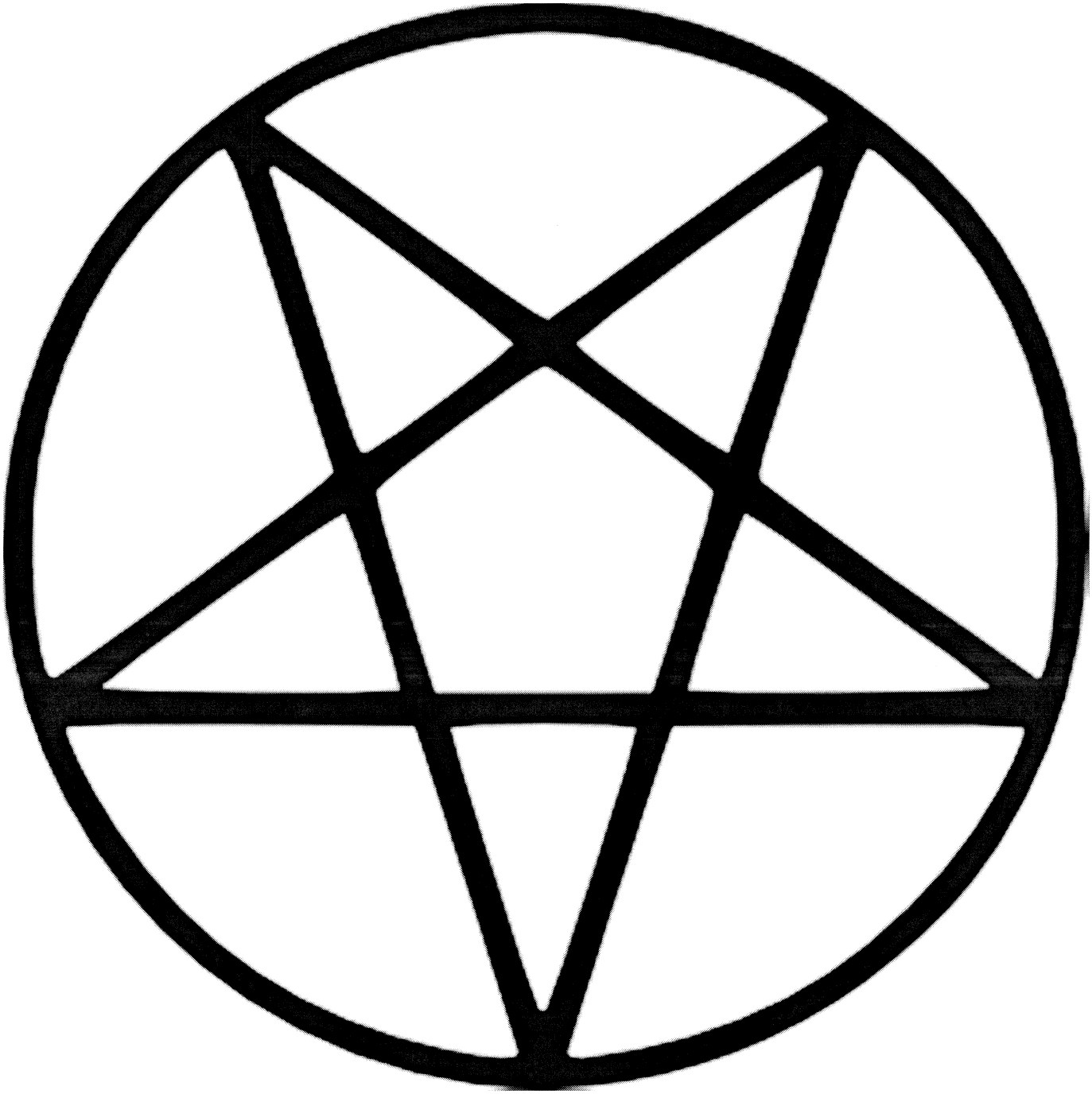
make $\overline{DB}$

make $\overline{DA}$

make $\overline{EC}$

make $\overline{AC}$

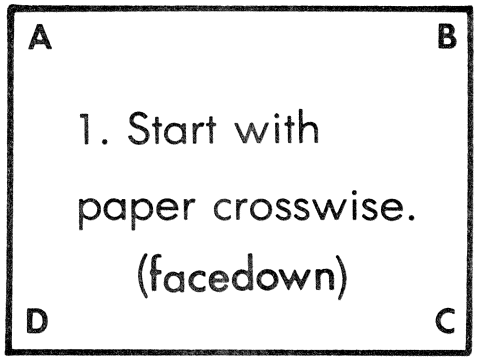
Create a Pentagram inside the Pentagon



Make a pentagram inside the Pentagon, multiple times, until it is too small.

Pentagon

Use 8½ x 11 paper or any other that is close to 3:4 ratio.



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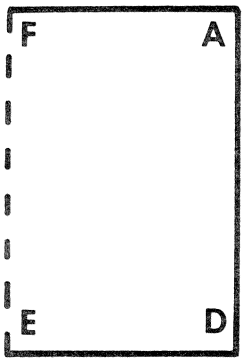
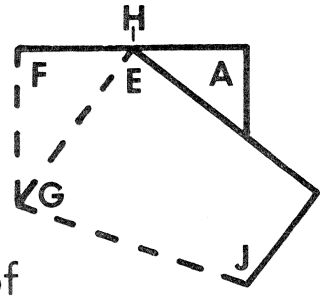
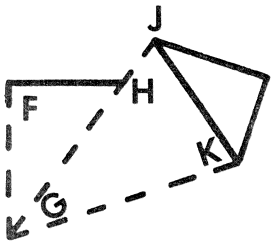


3. Match E to H, which is ½ the distance of F to A. Crease $\overline{GJ}$.



4. Bisect ∠EGJ by matching $\overline{GJ}$ to $\overline{GE}$. Crease on $\overline{GK}$.



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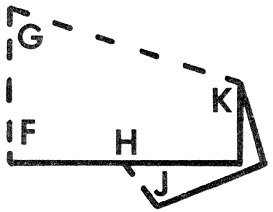

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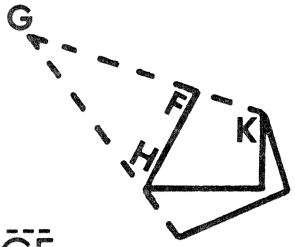

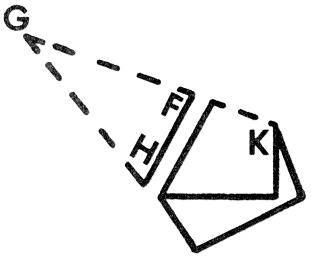

7. Cut on $\overline{HF}$.

8. Save and unfold △GFH.

Make a Pentagon follow instructions on previous page

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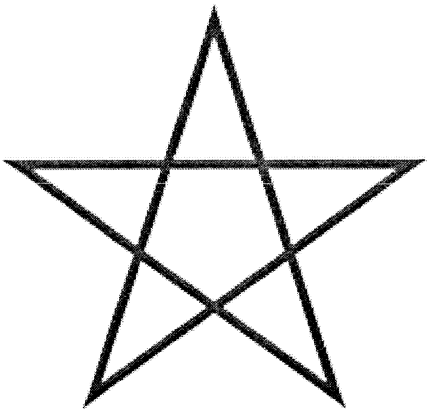

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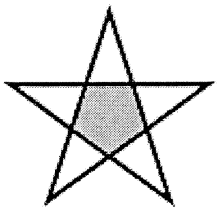

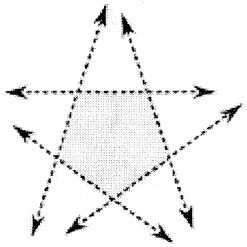

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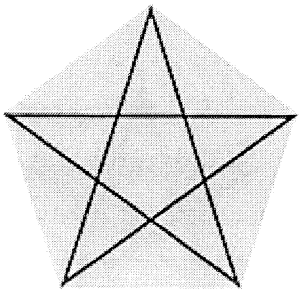

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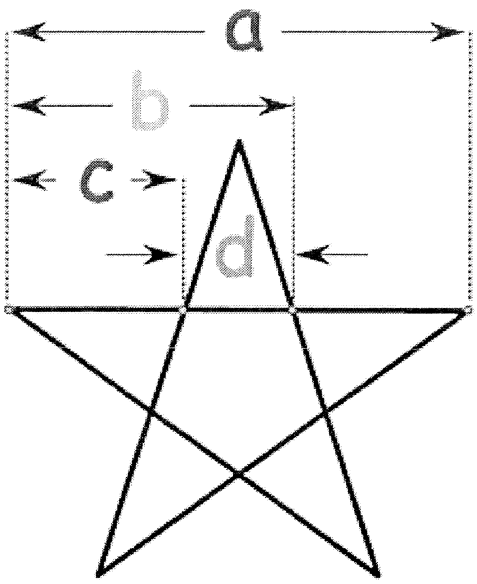

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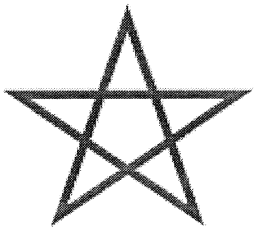

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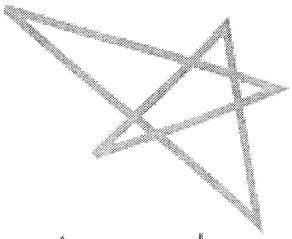

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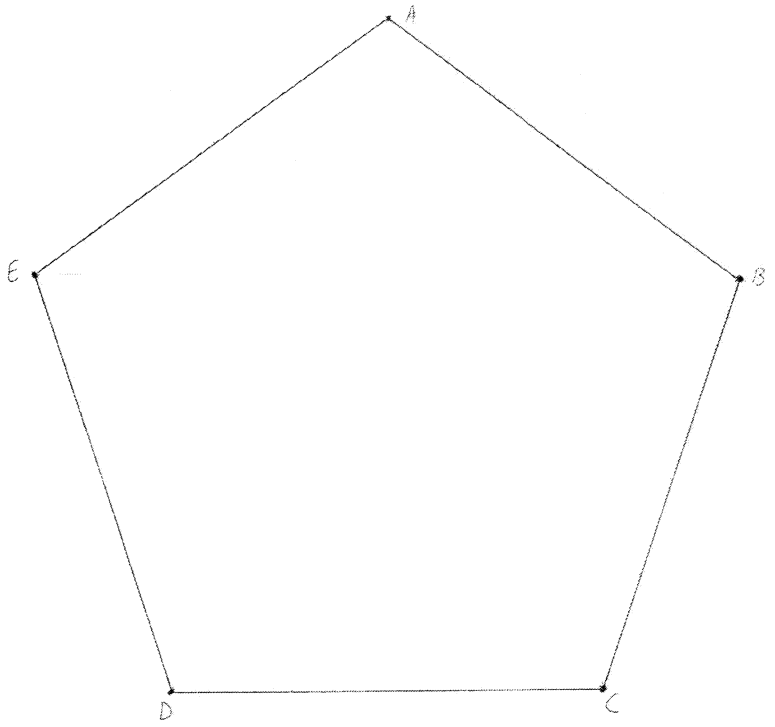

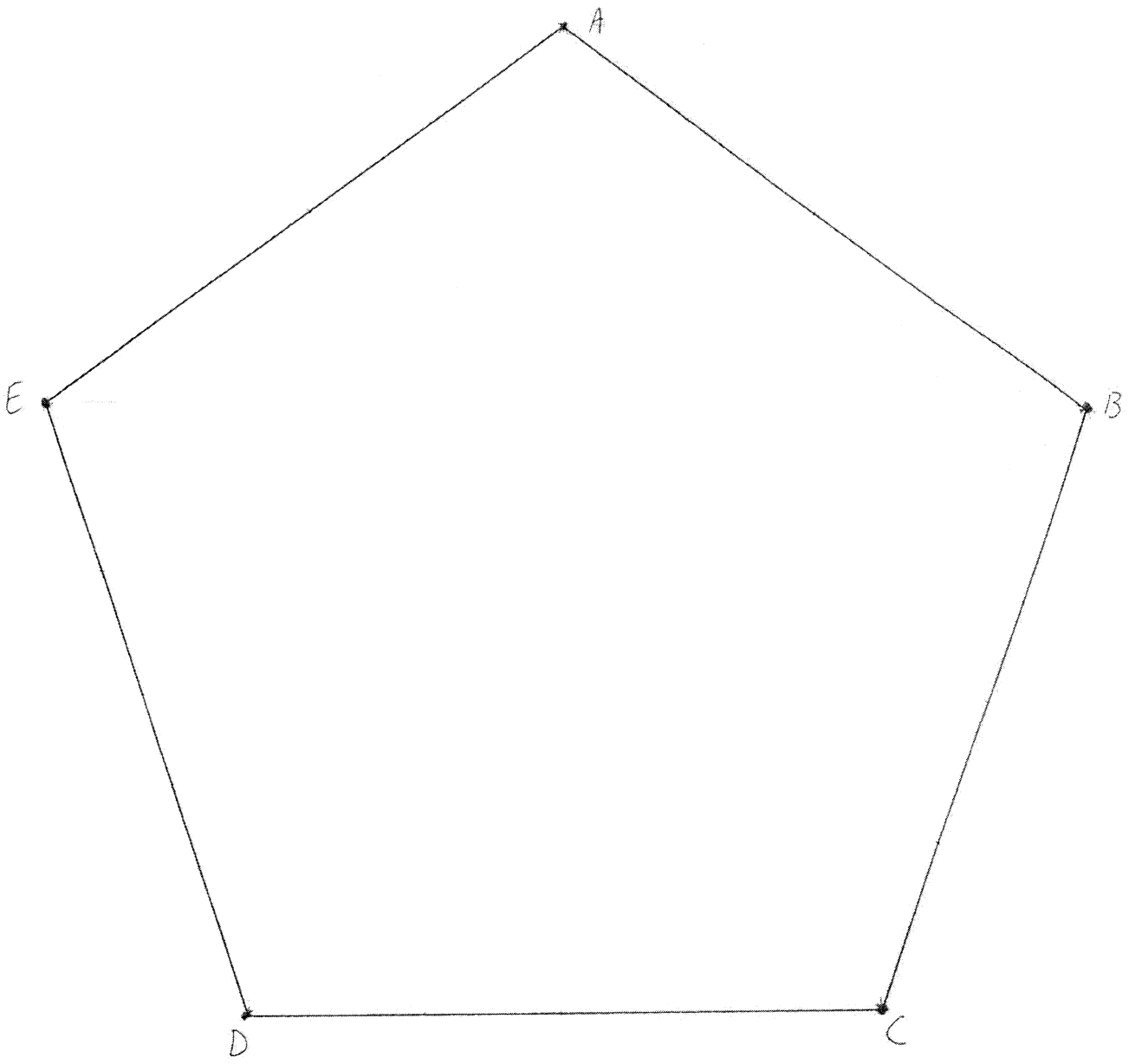

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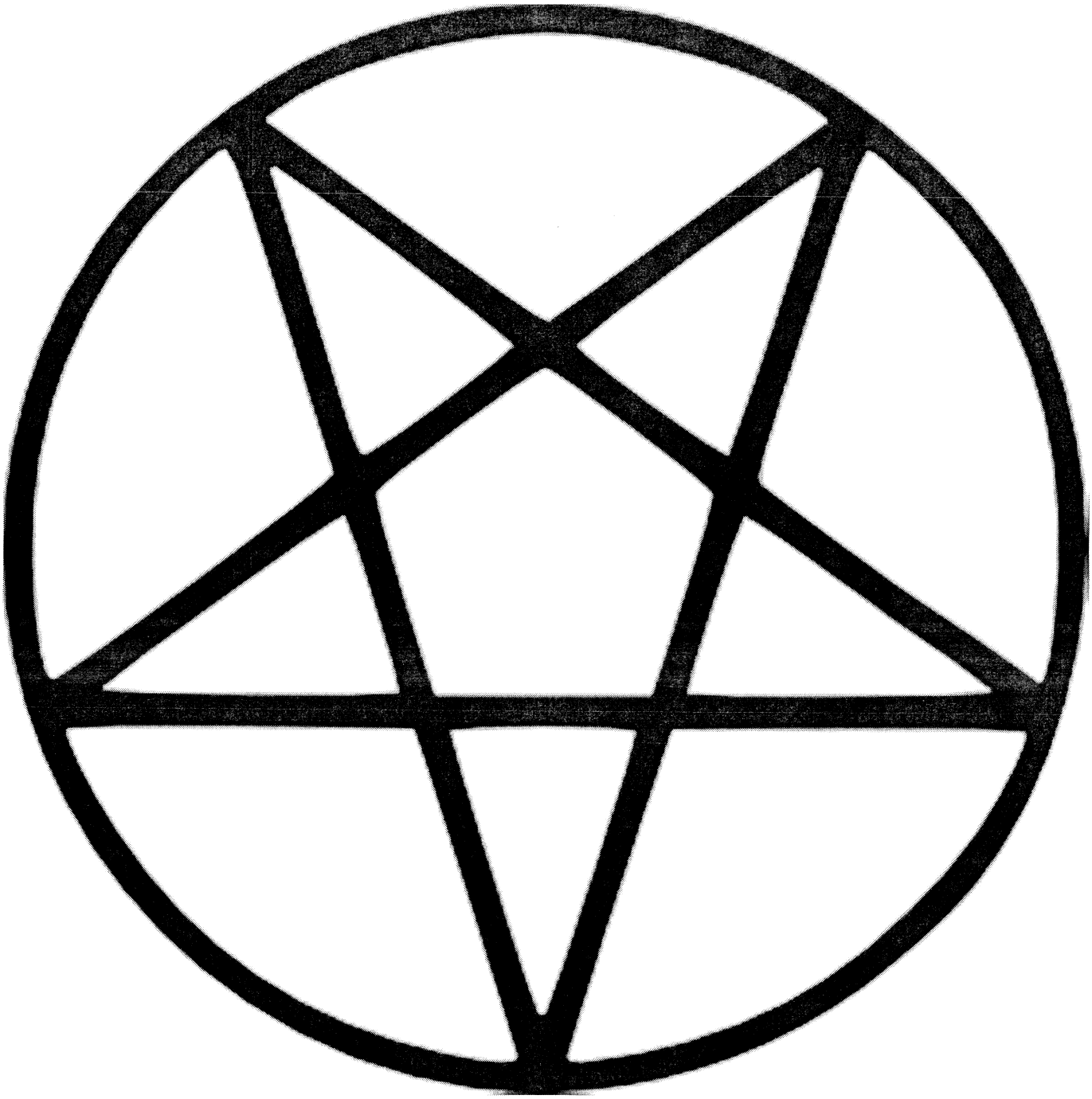

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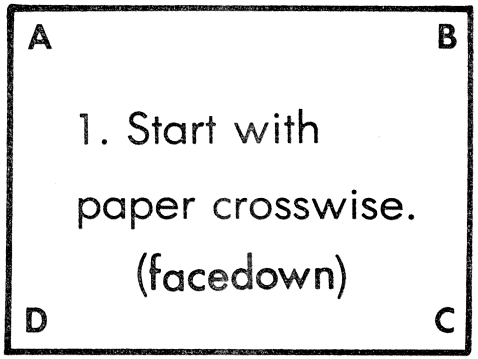

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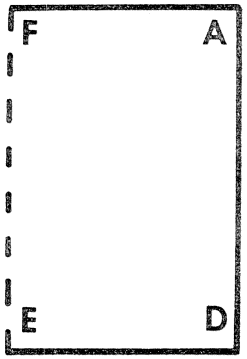

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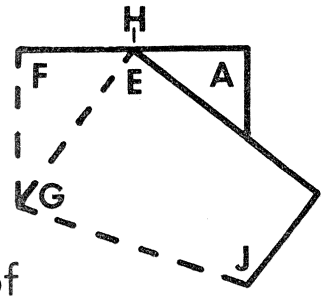

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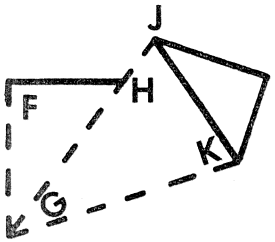

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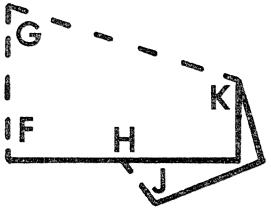

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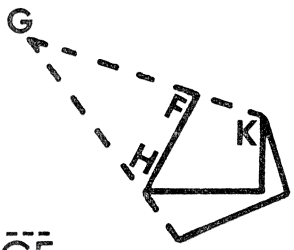

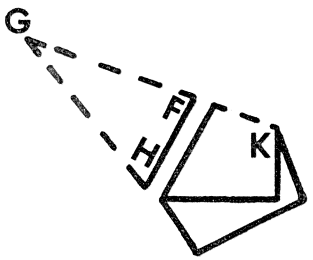

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