

Euclid's Elements

Book I

*If Euclid did not kindle your youthful enthusiasm, you
were not born to be a scientific thinker.*

Albert Einstein



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Proposition 22 of Book I

To construct a triangle out of three straight lines which equal three given straight lines - thus it is necessary that the sum of any two of the straight lines should be greater than the remaining one.



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Start with three lines a,b,c where the sum of any two is greater than the third



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$$DF = a$$



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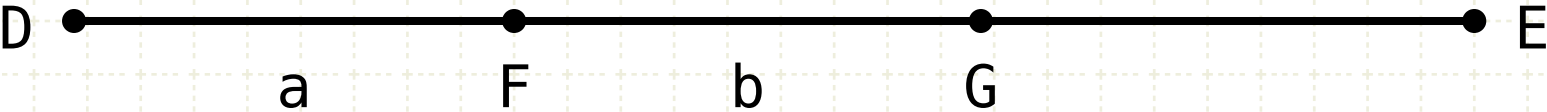
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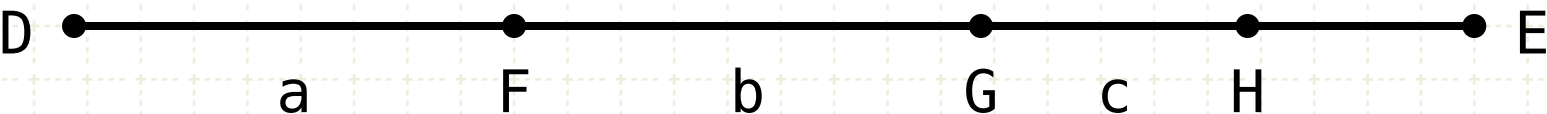
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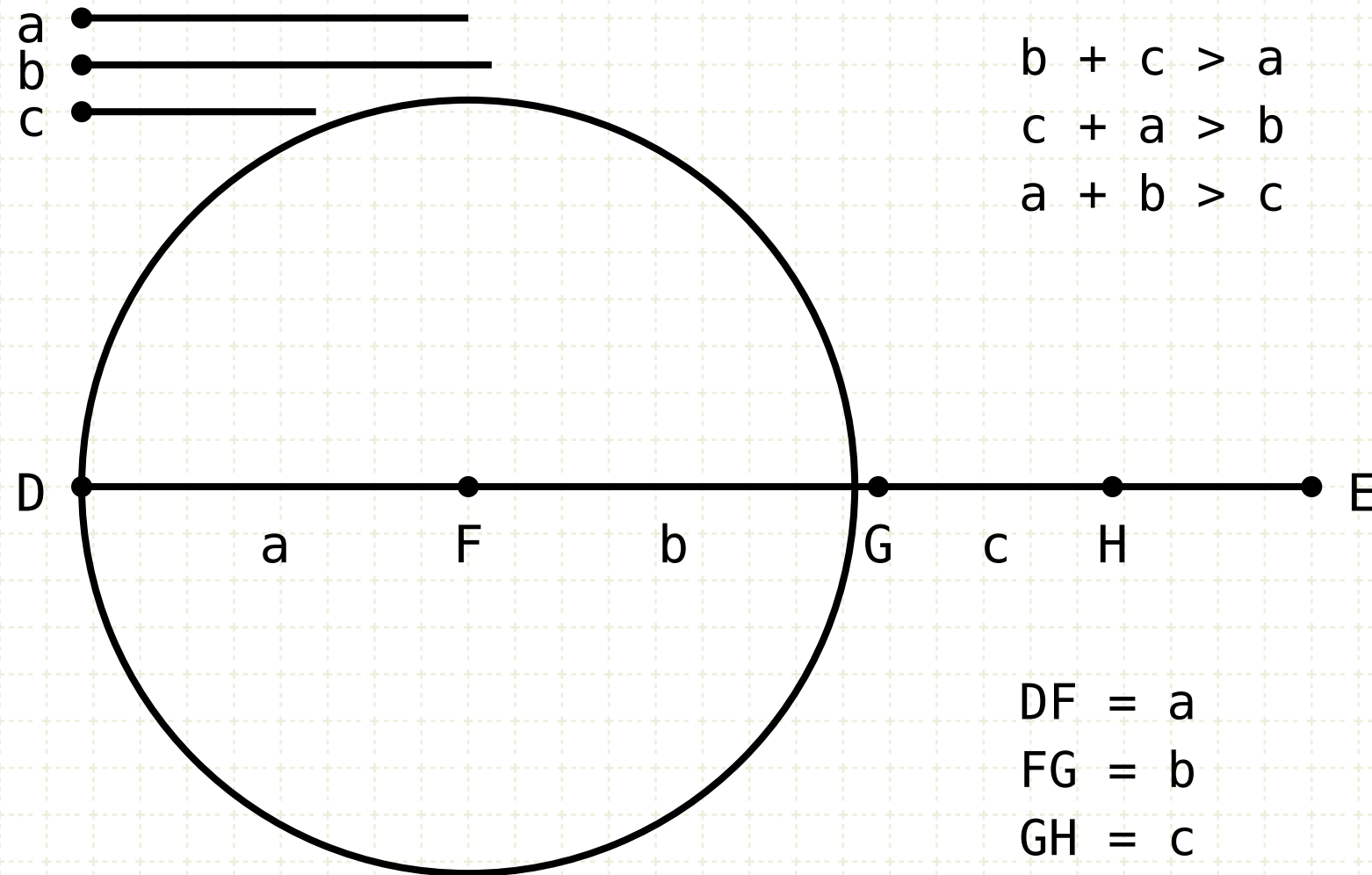


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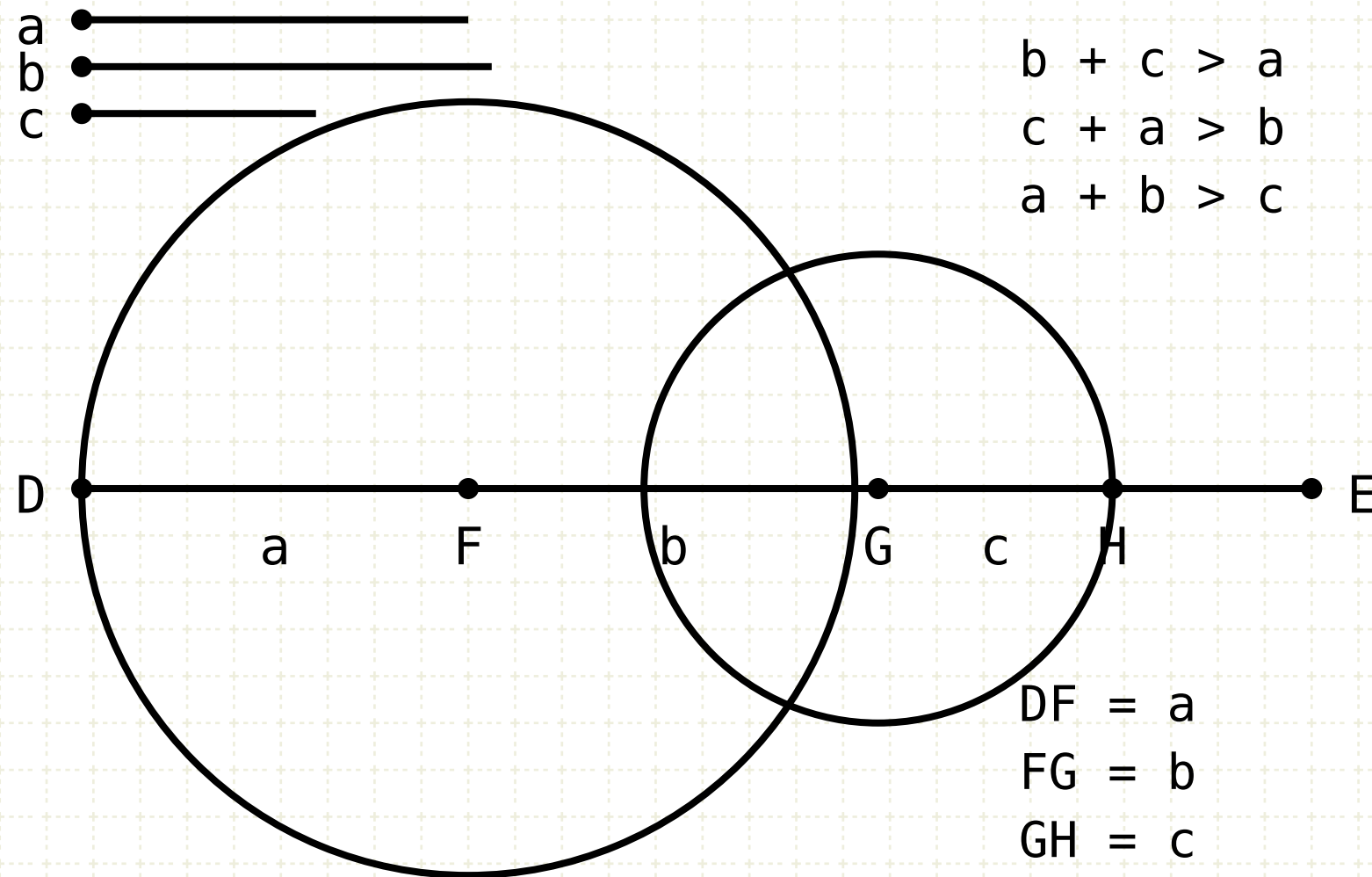
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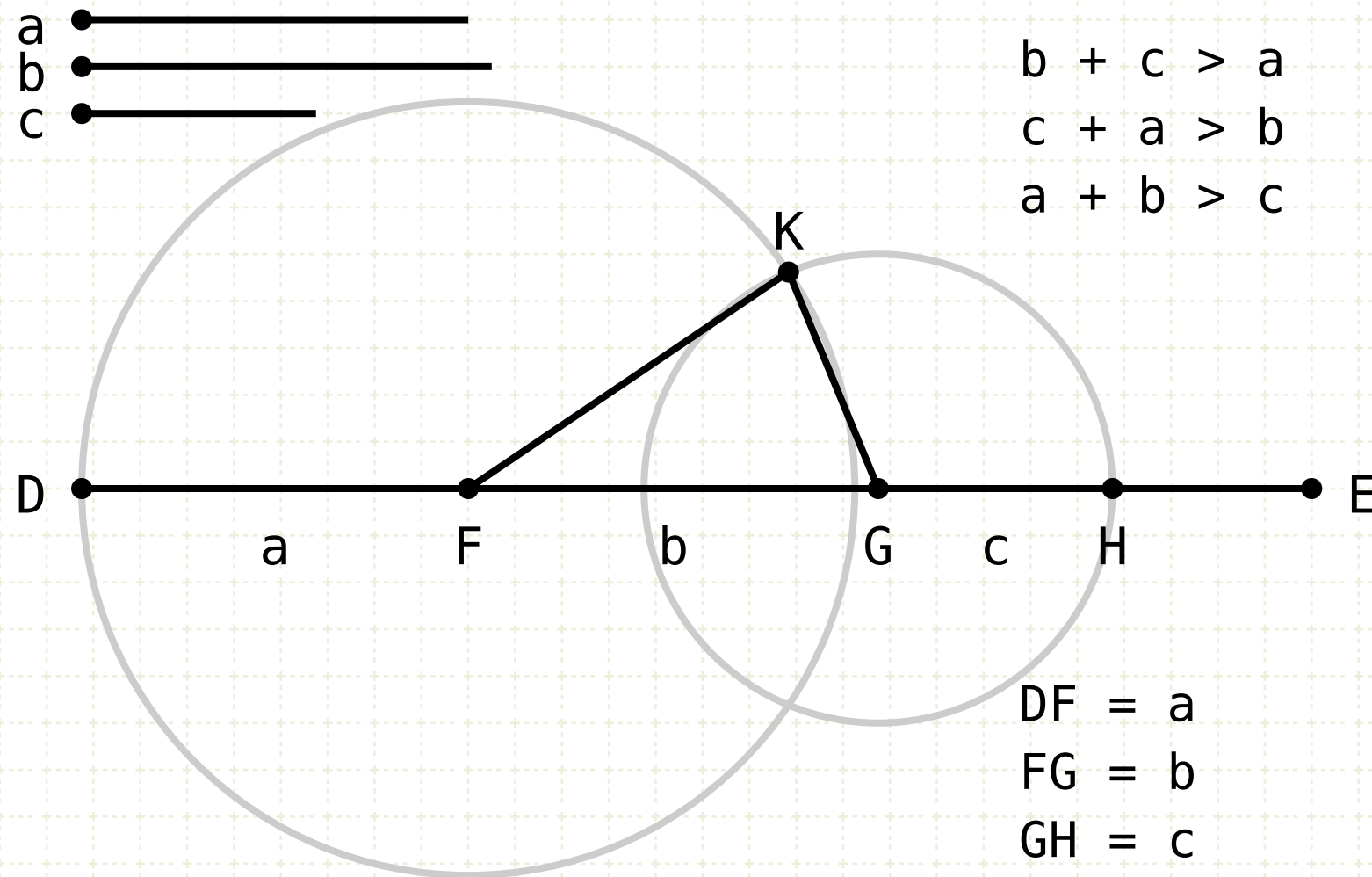
Define a point H such that GH is equal in length to c (I·3)

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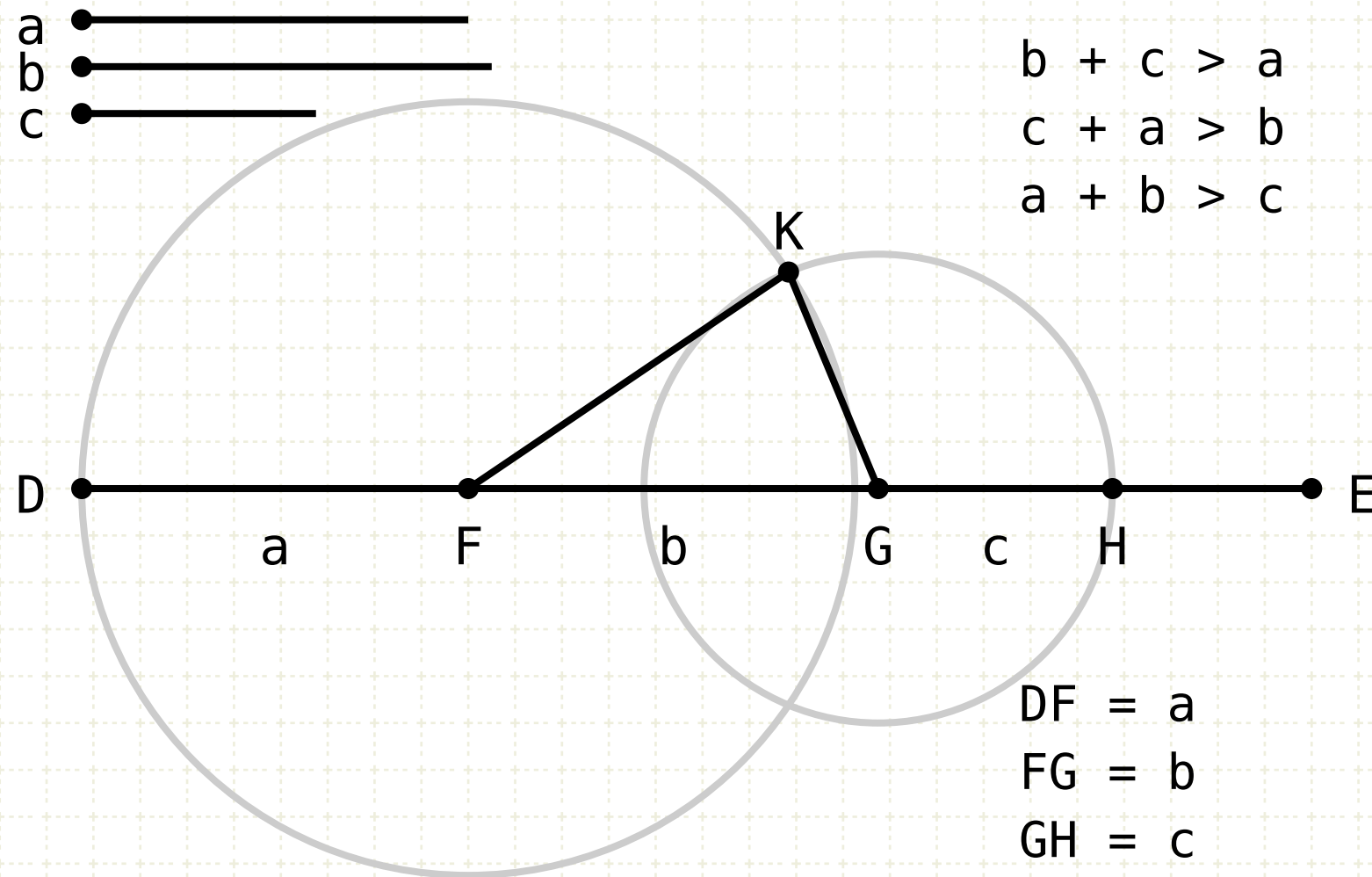
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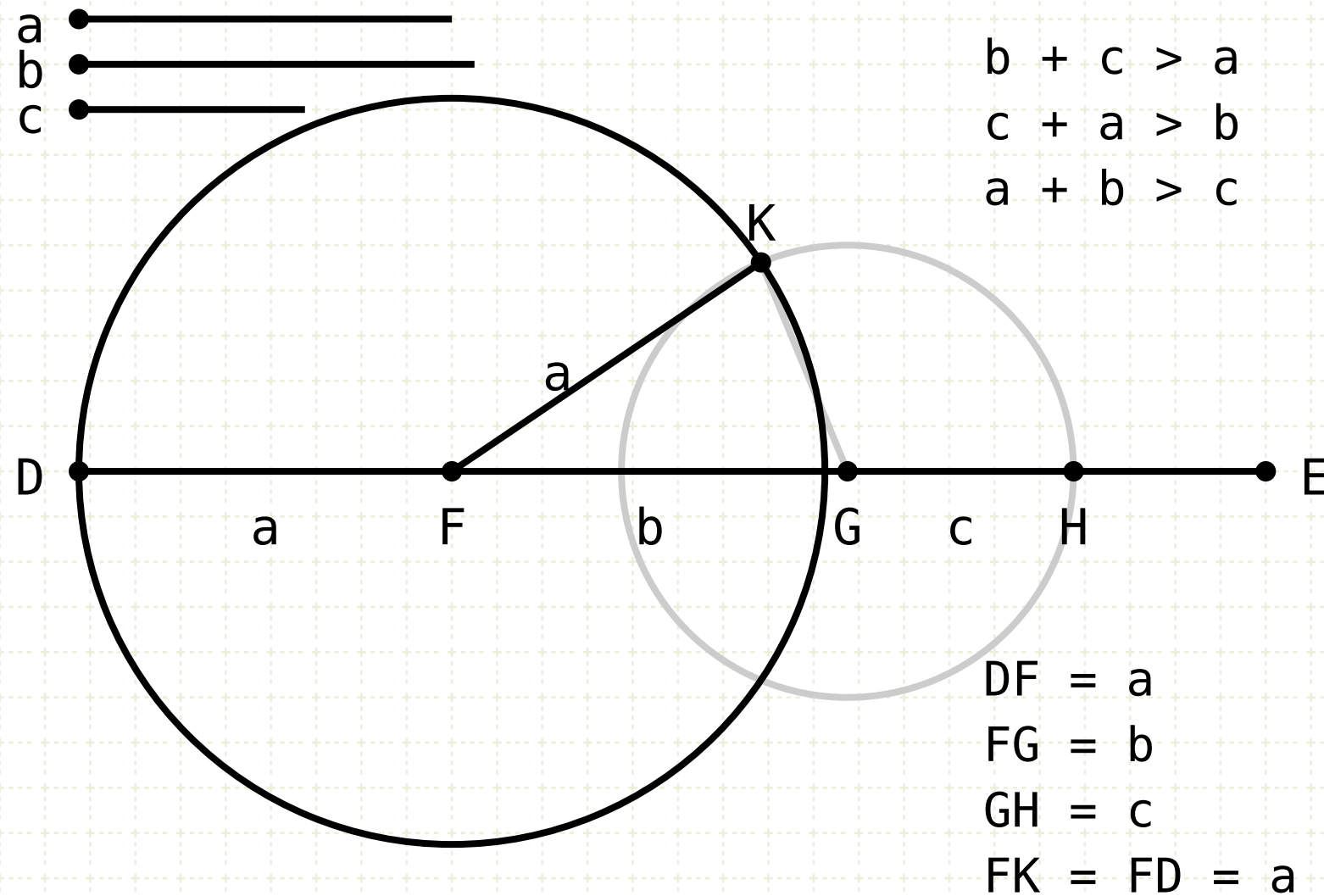
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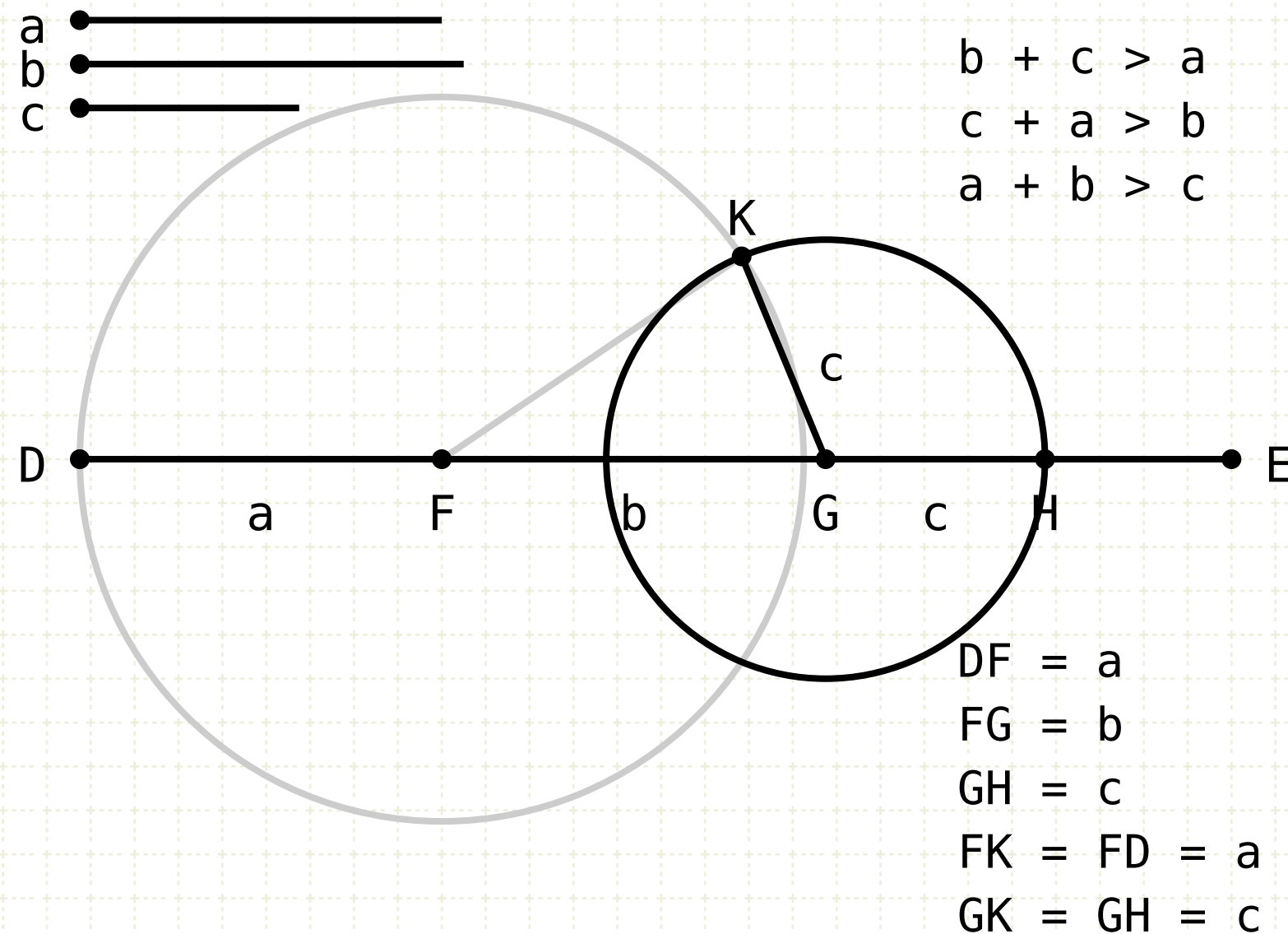
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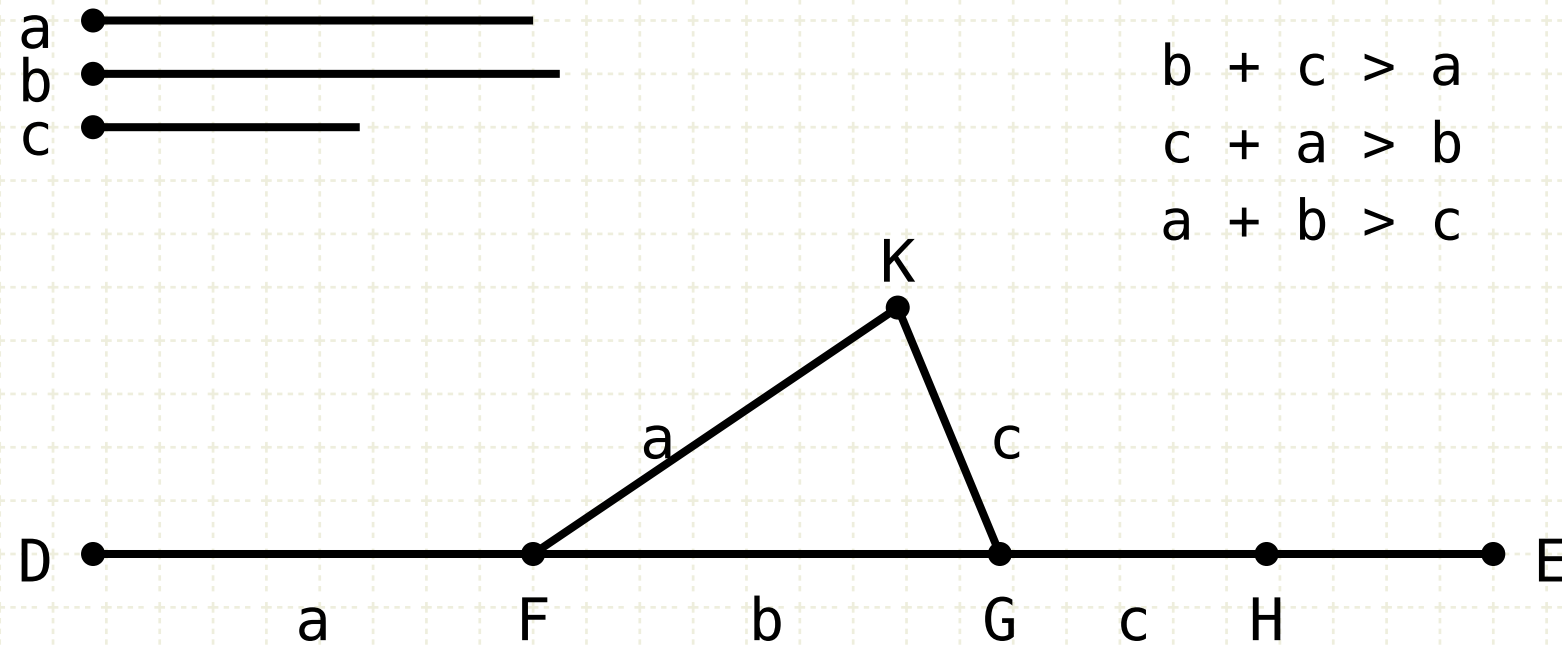
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