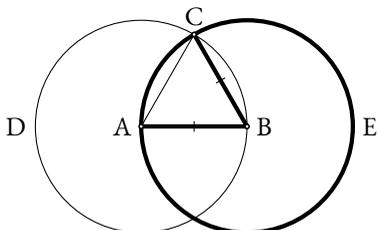
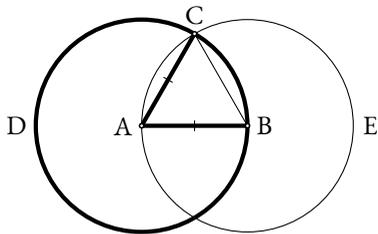
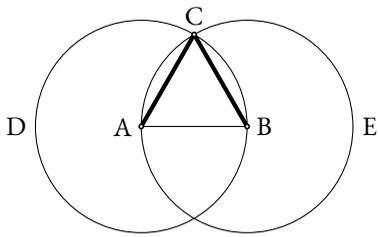
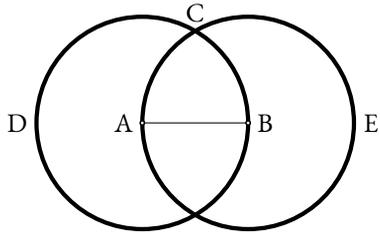
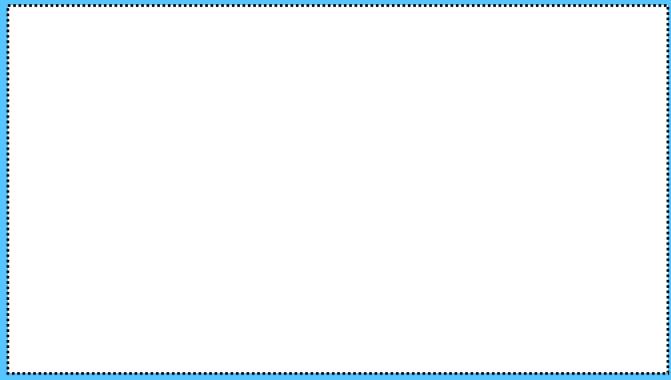
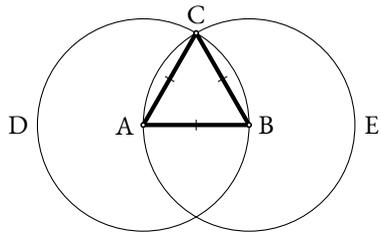


Proposition 1: draw equilateral Δ .



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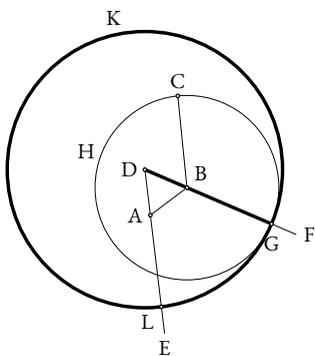
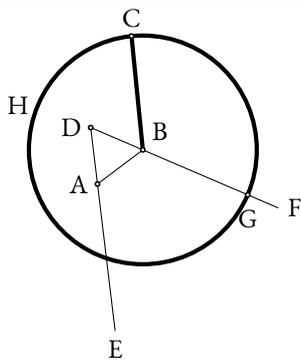
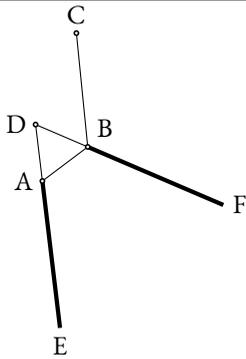
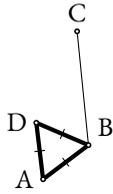
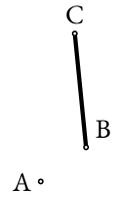


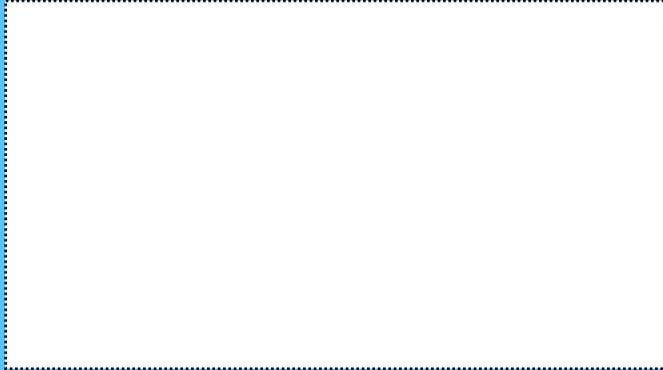
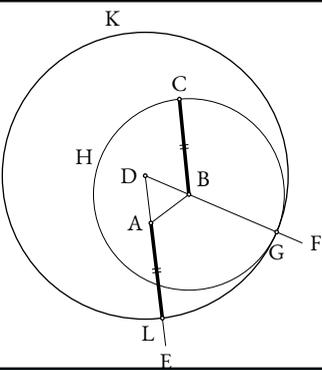
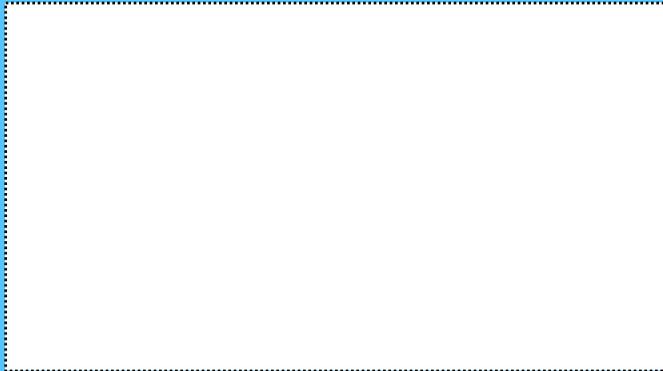
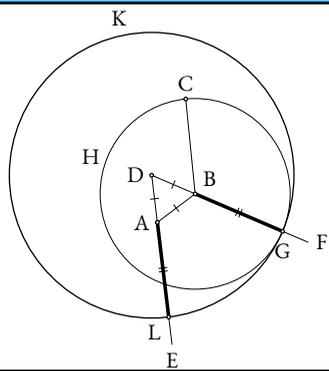
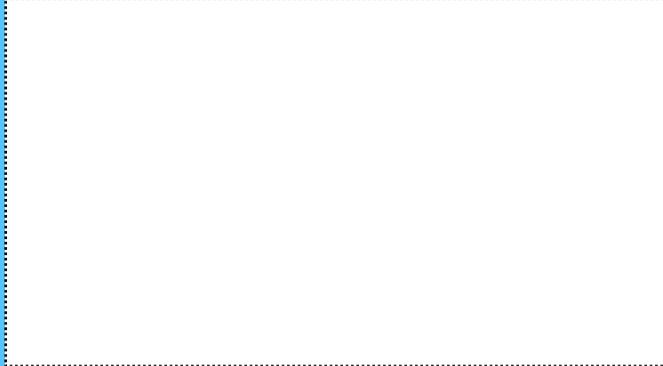
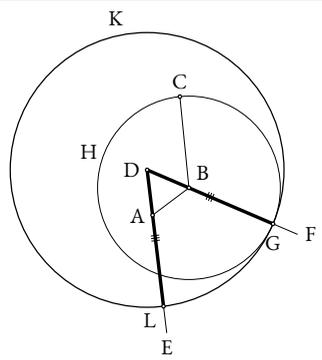
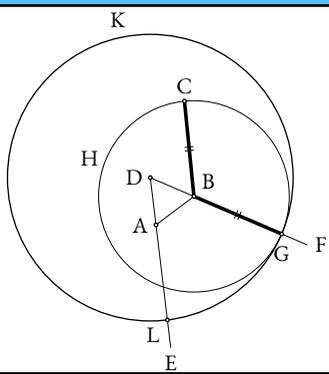


Proposition 2: move segment.

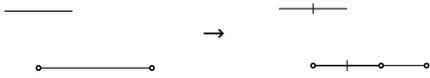


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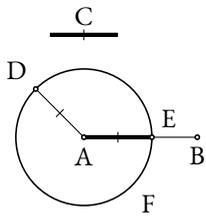
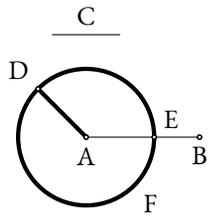
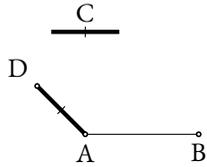


Proposition 3: cut off given length.



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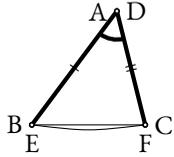
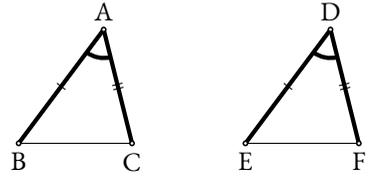
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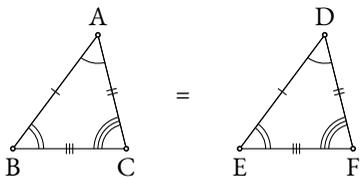
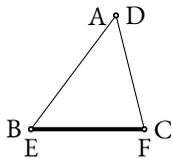
Proposition 4: SAS \triangle congruence.



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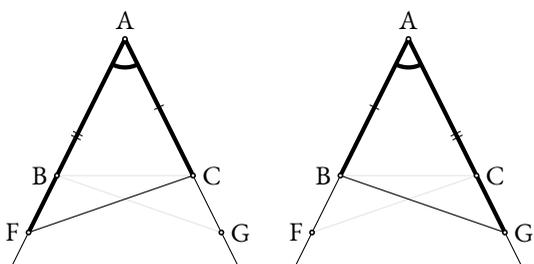
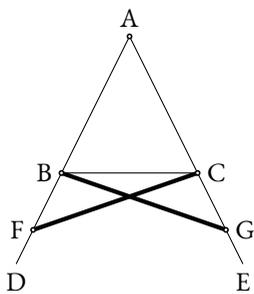
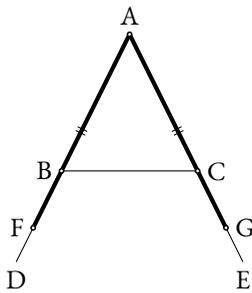
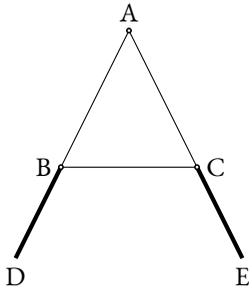
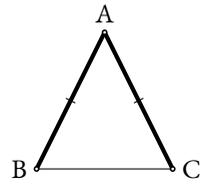
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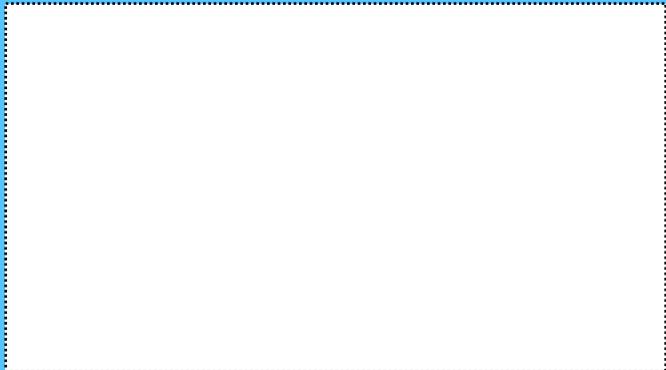
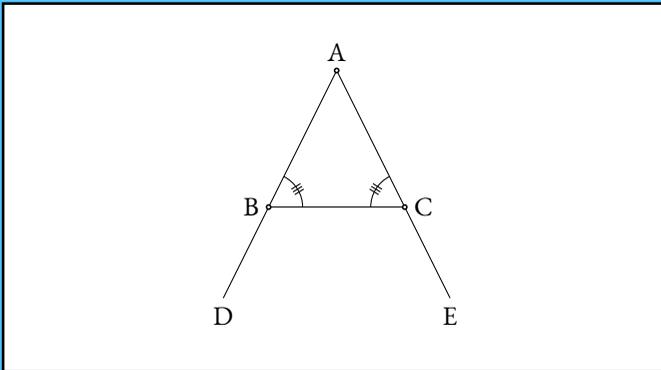
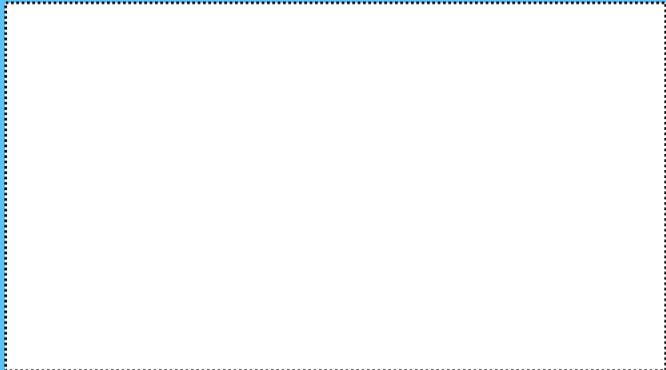
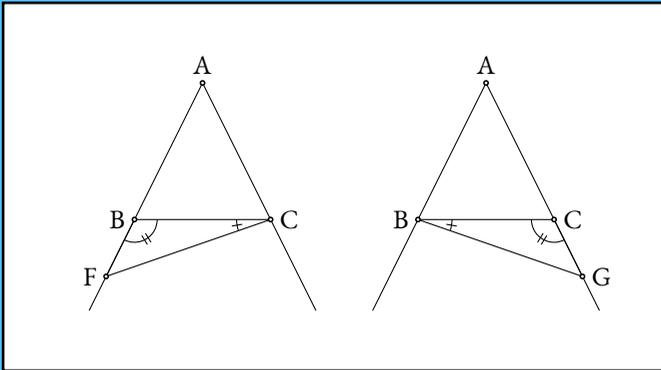
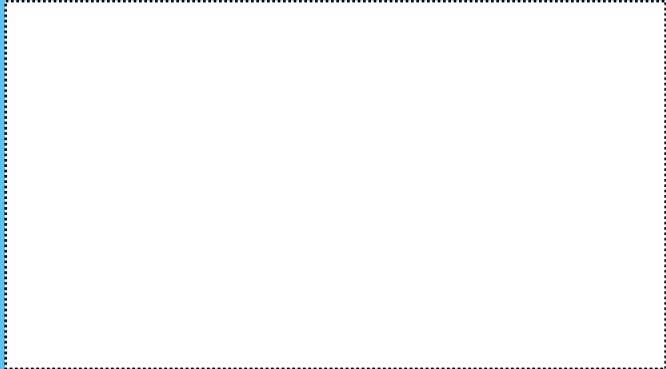
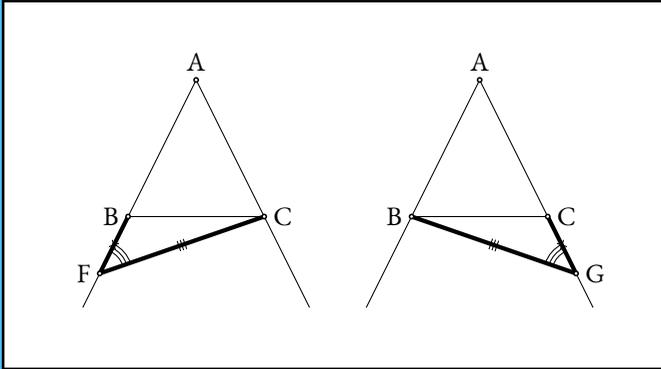
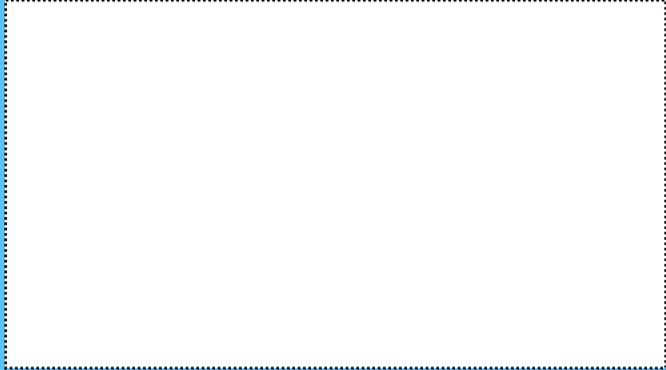
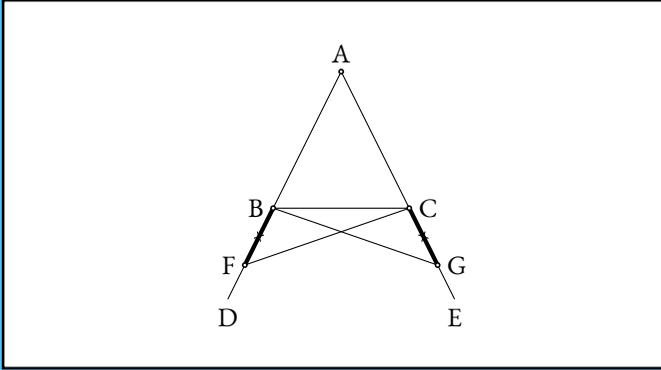
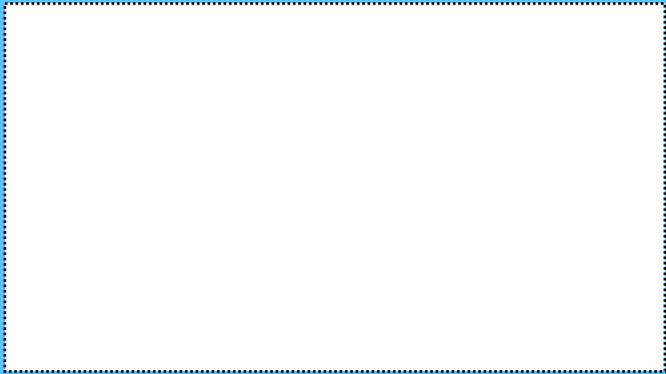
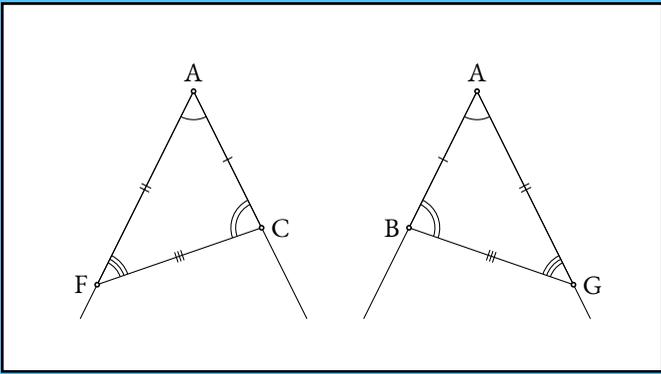


Proposition 5: isosceles $\triangle \Rightarrow$ base angles equal.

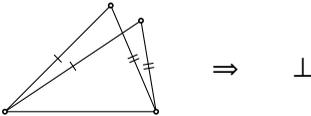


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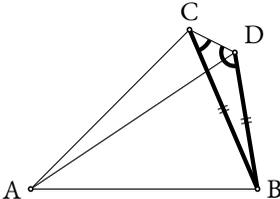
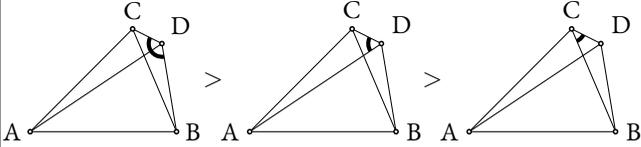
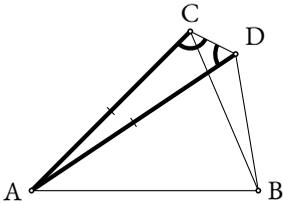
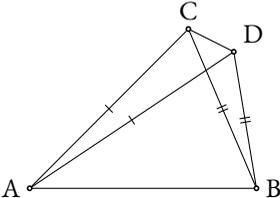
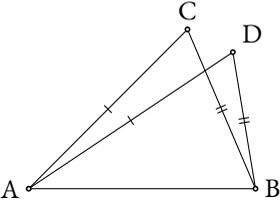




Proposition 7: SSS uniqueness.



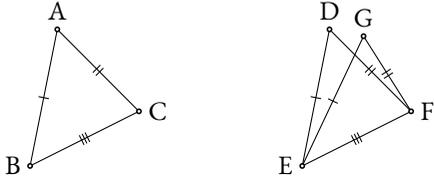
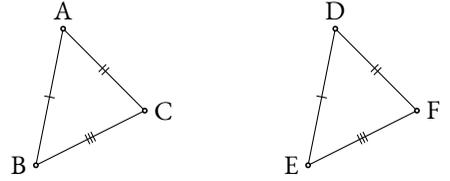
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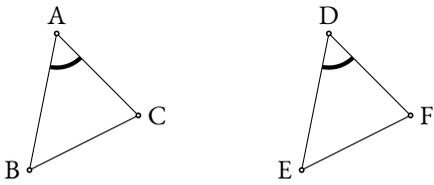
Proposition 8: SSS \triangle congruence.



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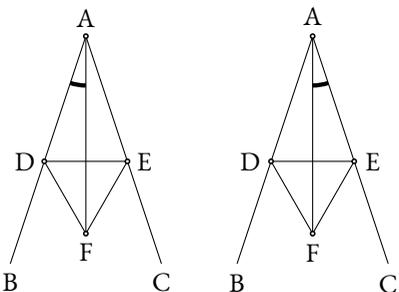
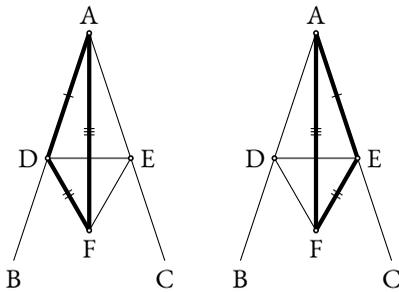
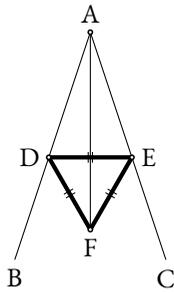
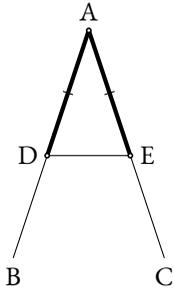
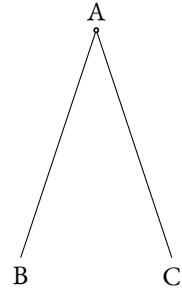
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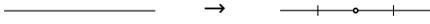
Proposition 9: bisect angle.



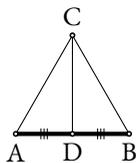
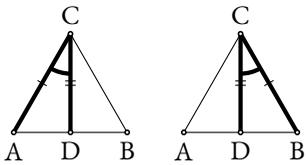
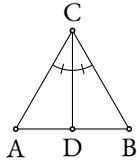
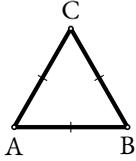
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Proposition 10: bisect segment.



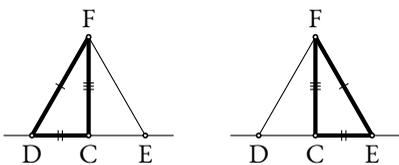
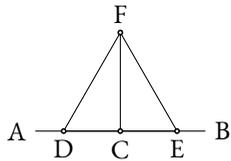
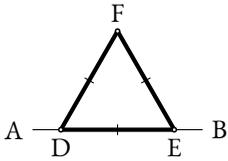
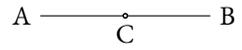
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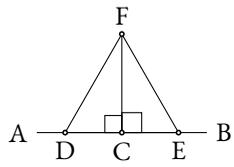
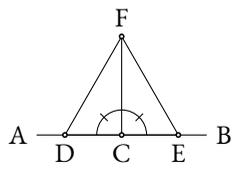


Proposition 11: draw perpendicular.



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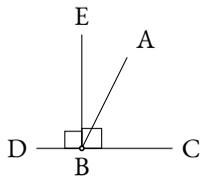
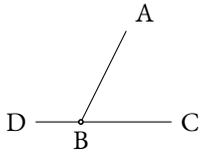




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Proposition 13: angle on one side of straight line = 2r .

$$\longrightarrow \circ \longrightarrow \Rightarrow \text{---} \overset{\frown}{\circ} \text{---} = 2\text{r}$$



$$\text{r} = \text{r} + \text{r}$$

$$\text{r} + \text{d} = \text{r} + \text{r} + \text{d}$$

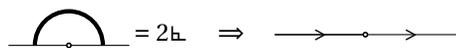
$$\underline{d} = \underline{d} + \underline{b}$$

$$\underline{d} + \underline{k} = \underline{d} + \underline{b} + \underline{k}$$

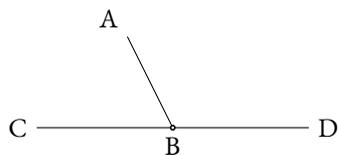
$$\underline{k} + \underline{d} = \underline{d} + \underline{k}$$

$$\underline{d} + \underline{k} = \underline{b} + \underline{d}$$

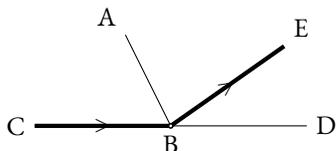
Proposition 14: angle on one side = 2r \Rightarrow straight line.



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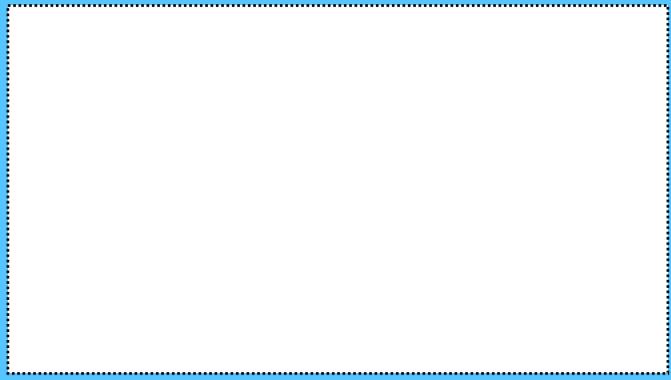
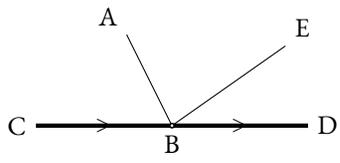
$$\angle CBA + \angle ABD = 2r$$



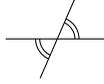
$$\angle CBA + \angle ABD = 2r$$

$$\angle CBA + \angle ABD = \angle CBA + \angle ABD$$

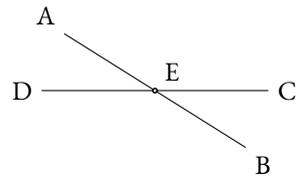
$$\angle CBA = \angle ABD$$



Proposition 15: vertical angles equal.



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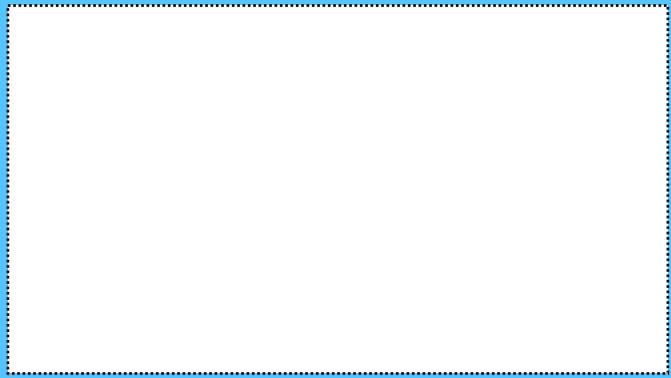
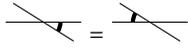


$$\angle AEC + \angle BED = 2\text{r}$$

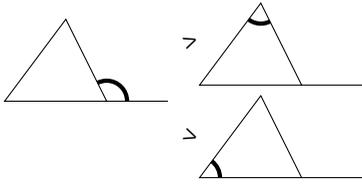
$$\angle BED + \angle AEC = 2\text{r}$$

$$\angle AEC + \angle BED = \angle BED + \angle AEC$$

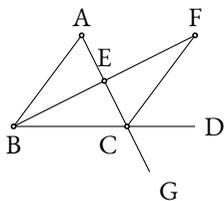
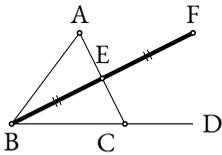
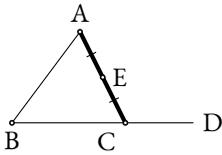
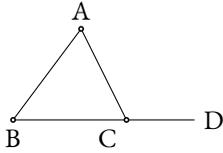
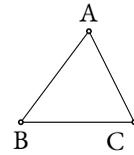
$$\angle AEC = \angle BED$$

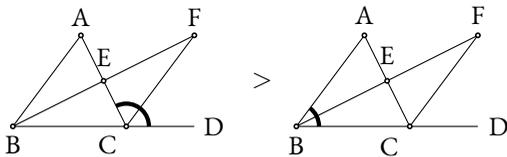
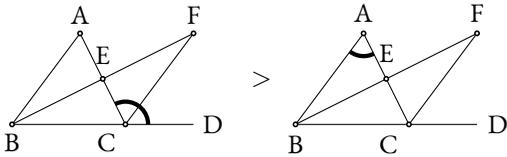
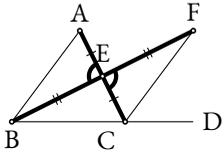
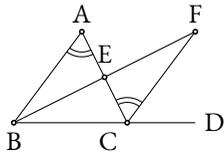


Proposition 16: Δ external angle $>$ each opposite internal angle.



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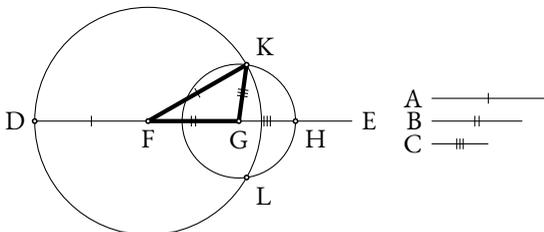
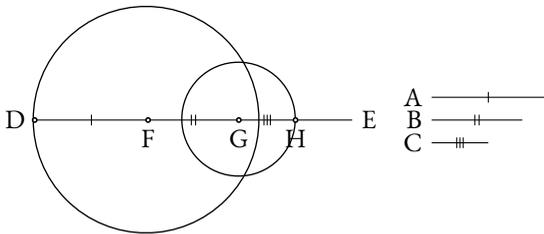
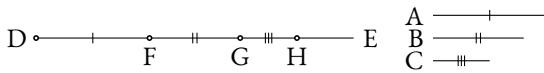


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Proposition 22: draw \triangle from three segments.



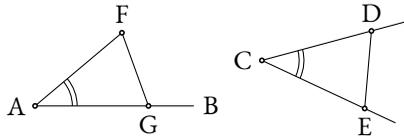
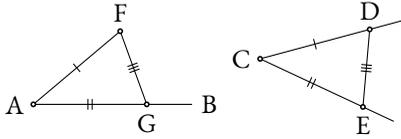
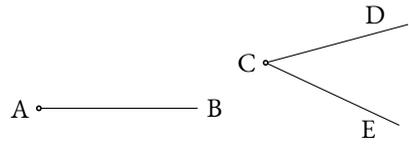
A _____
B _____
C _____



Proposition 23: move angle.



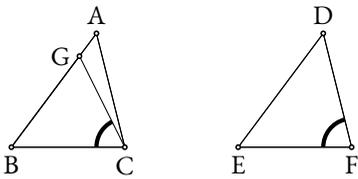
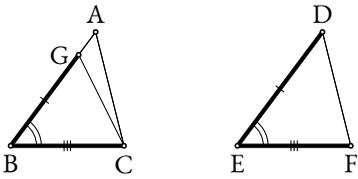
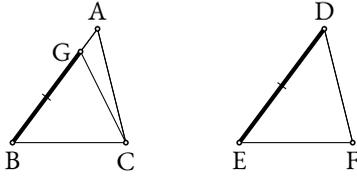
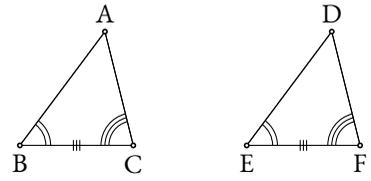
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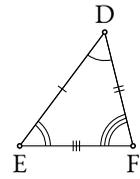
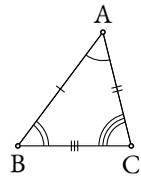
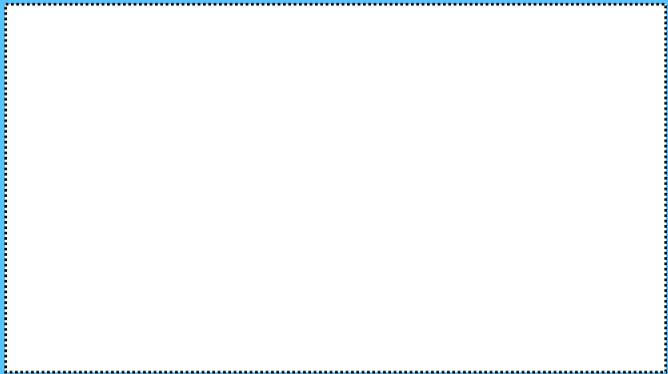
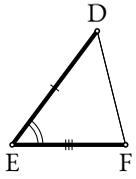
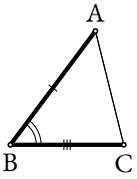
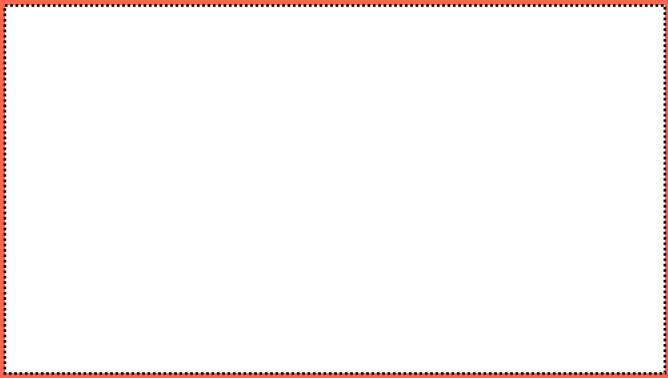
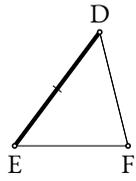
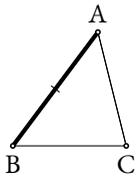
Proposition 26: ASA \triangle congruence.



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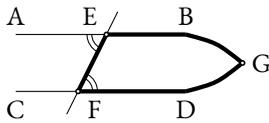
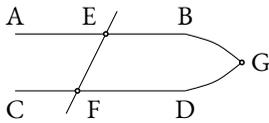
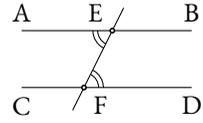
\perp



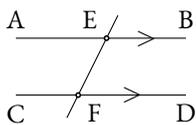
Proposition 27: alternate angles equal \Rightarrow parallel.



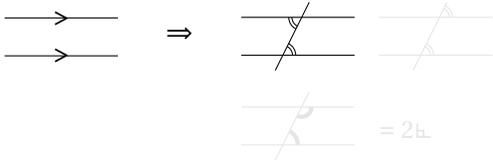
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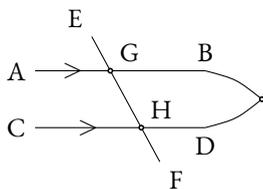
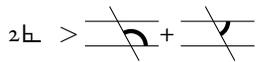
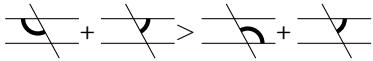
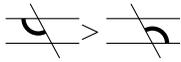
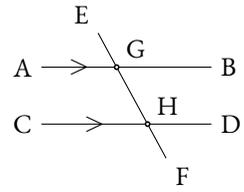
\perp



Proposition 29: parallel \Rightarrow alternate angles equal, ... internal angles = $2h$.



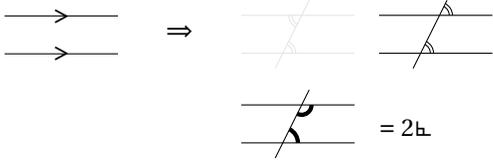
GIVEN



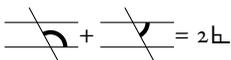
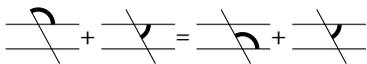
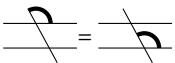
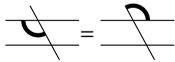
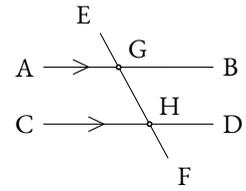
⊥

$\frac{1}{2} = \frac{1}{2}$

Proposition 29: parallel \Rightarrow alternate angles equal, ... internal angles = $2h$.



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Proposition 30: parallel to same \Rightarrow parallel to each other.

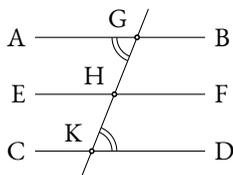
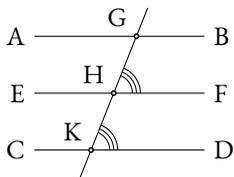
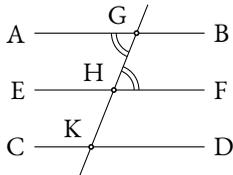
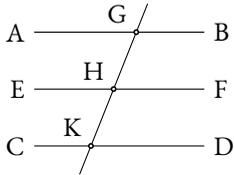


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A \parallel B

E \parallel F

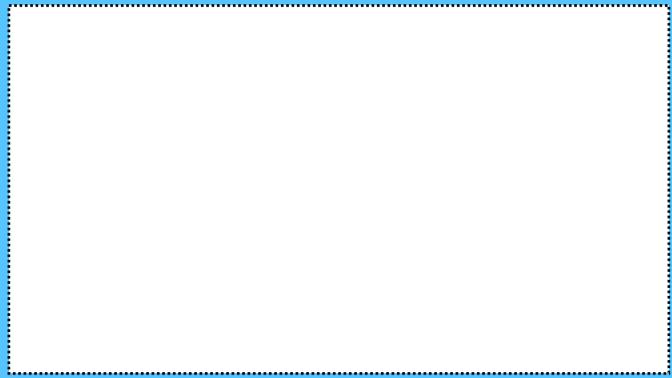
C \parallel D



A —————> B

E ————— F

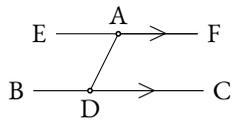
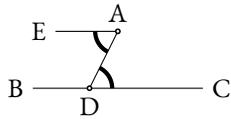
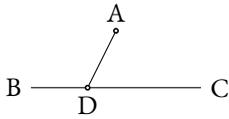
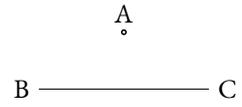
C —————> D



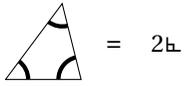
Proposition 31: draw parallel through point.



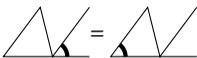
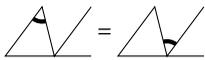
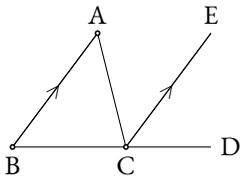
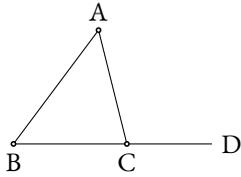
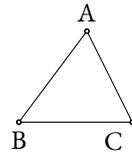
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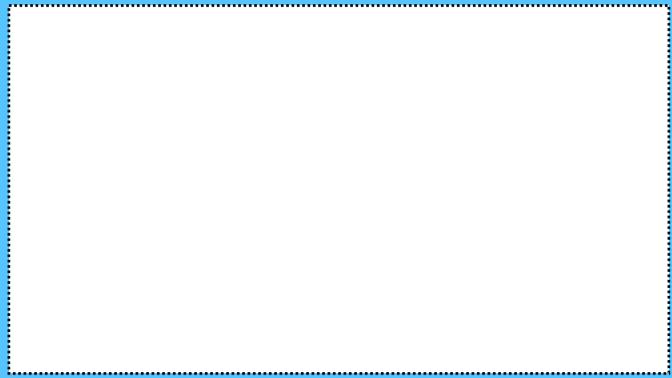
Proposition 32: \triangle angle sum = 2r .



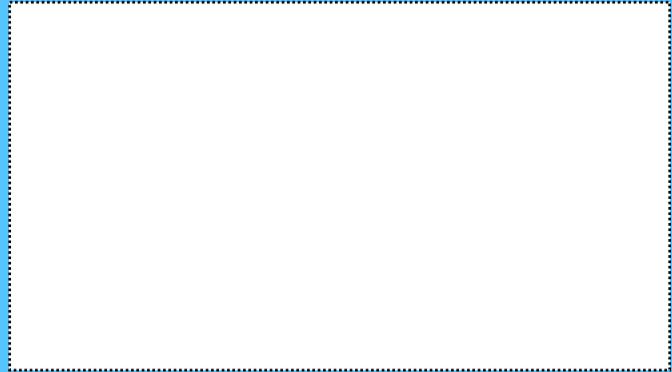
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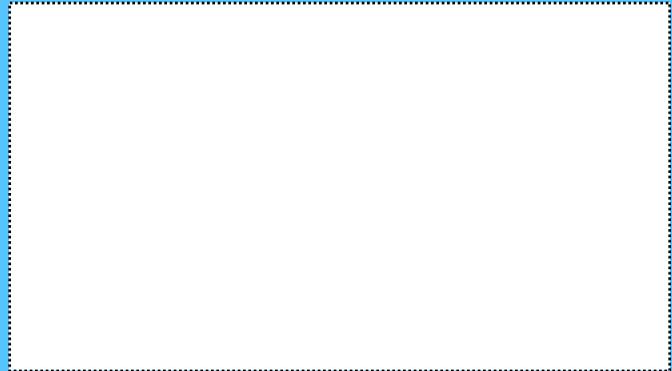
$$\triangle + \triangle = \triangle + \triangle$$



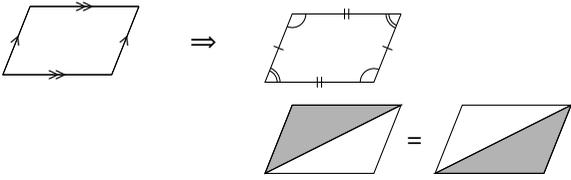
$$\triangle + \triangle = \triangle + \triangle + \triangle$$



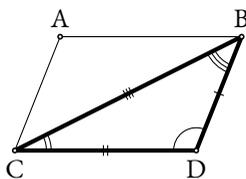
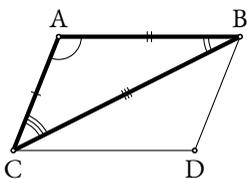
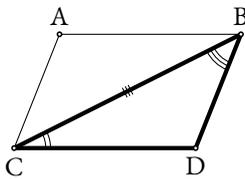
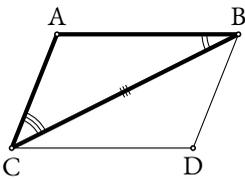
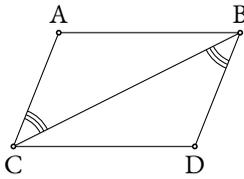
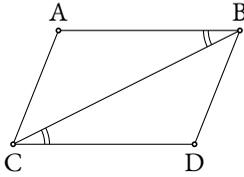
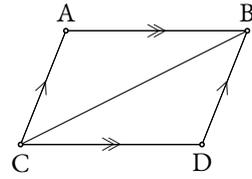
$$\triangle = 2\triangle$$

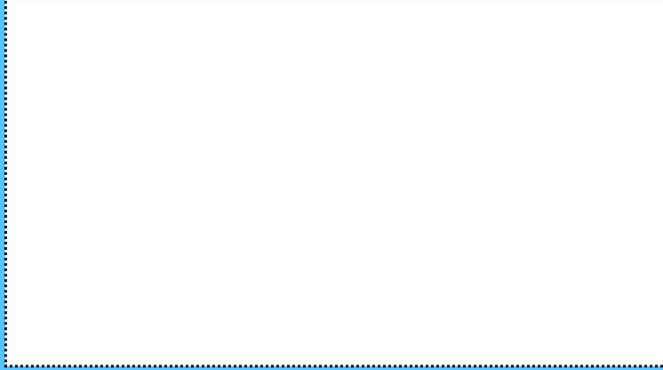
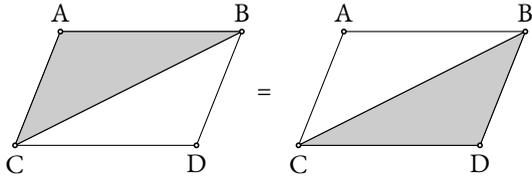
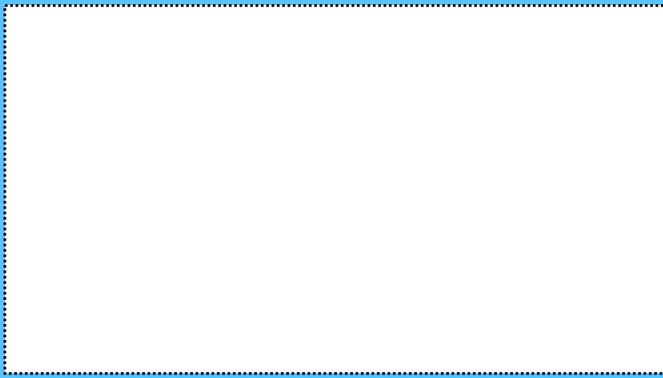
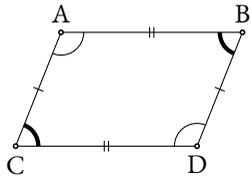


Proposition 34: $\square \Rightarrow$ opposite sides, angles equal; diagonal bisects.

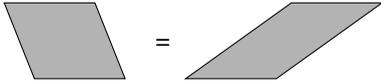


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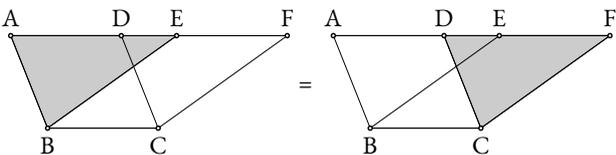
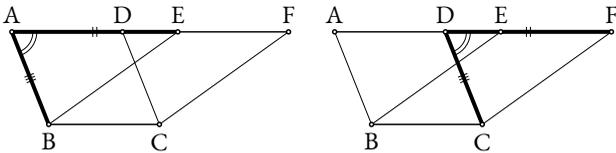
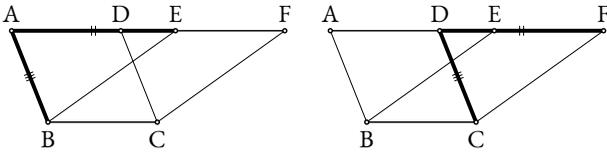
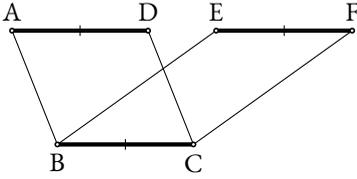
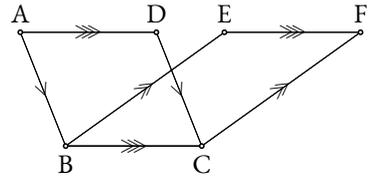


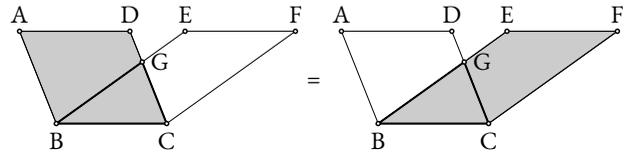
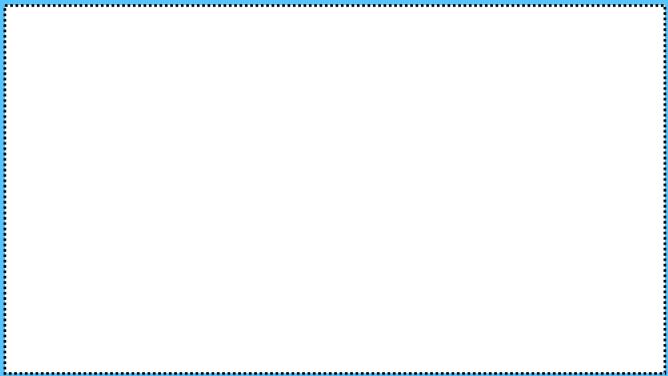
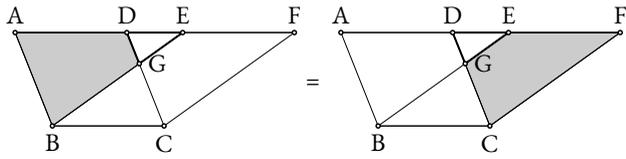


Proposition 35: \square w same base, height \Rightarrow equal area.

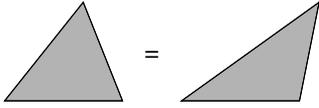


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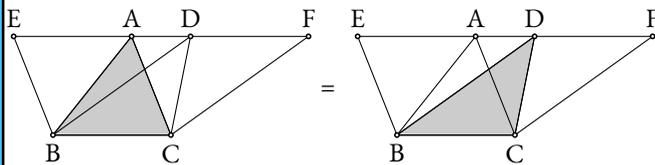
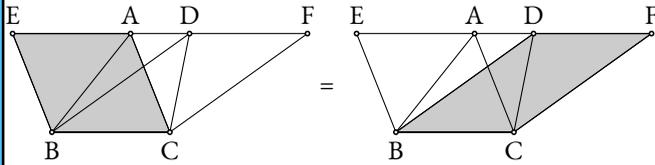
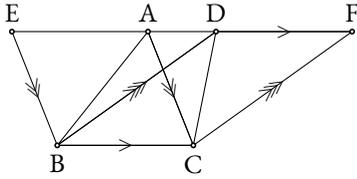
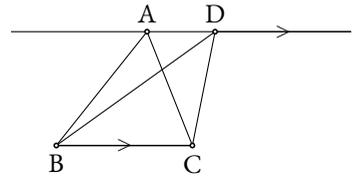




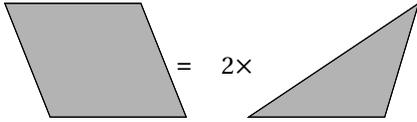
Proposition 37: Δ w same base, height \Rightarrow equal area.



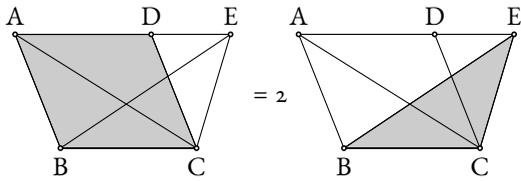
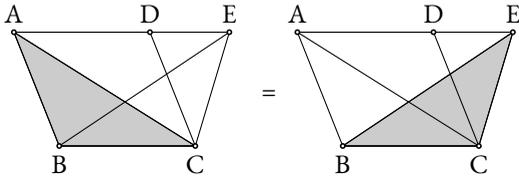
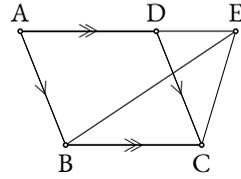
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Proposition 41: \square area = $2 \times$ corresponding \triangle area.



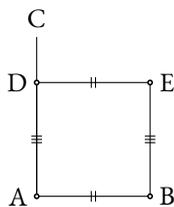
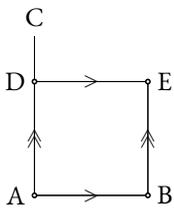
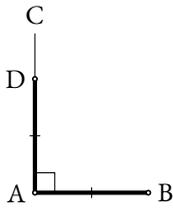
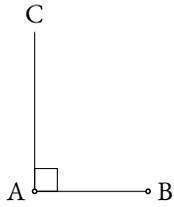
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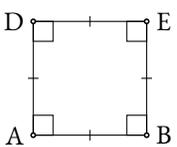
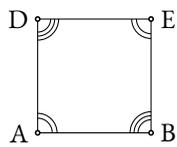
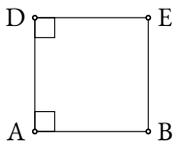
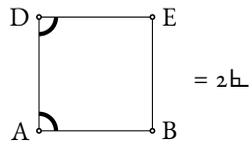
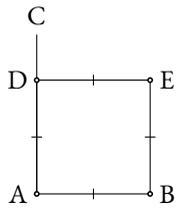


Proposition 46: draw a square.

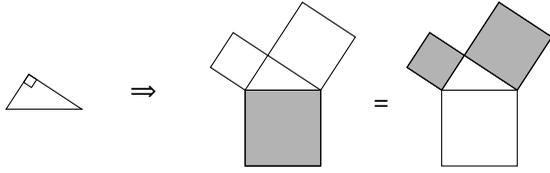


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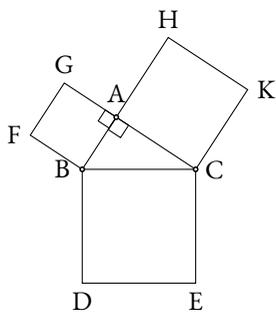
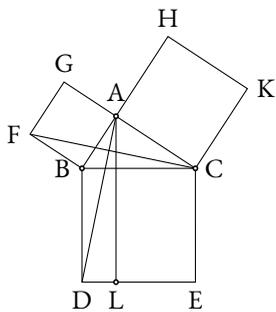
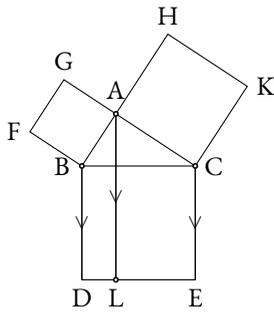
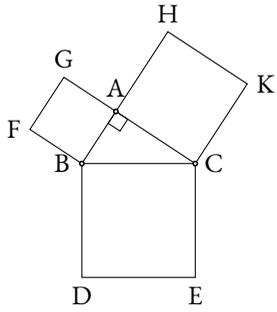
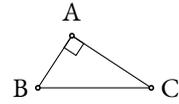


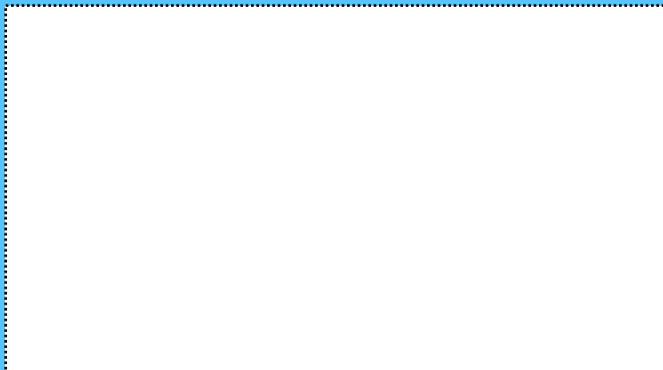
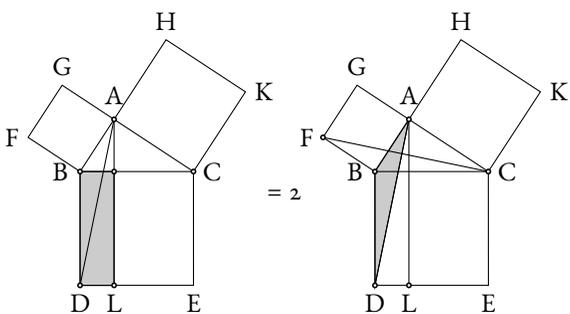
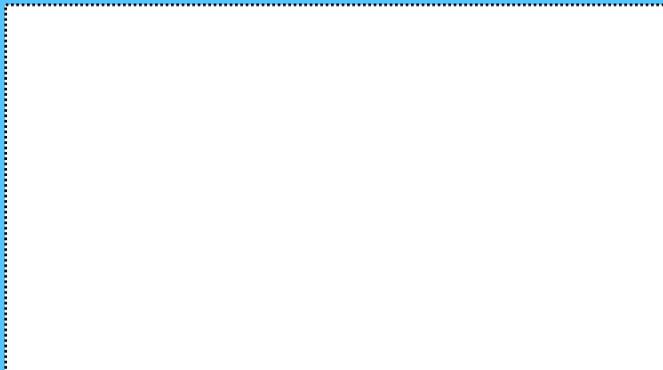
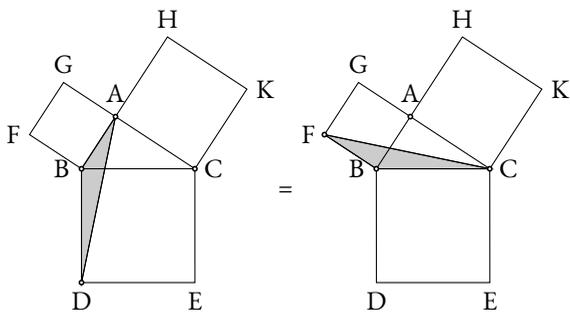
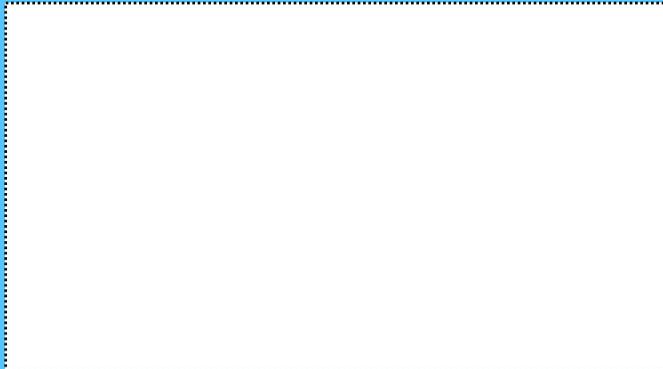
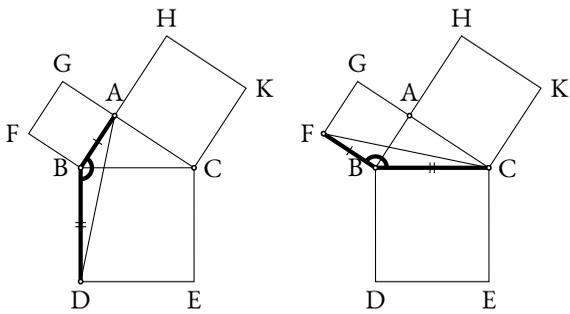
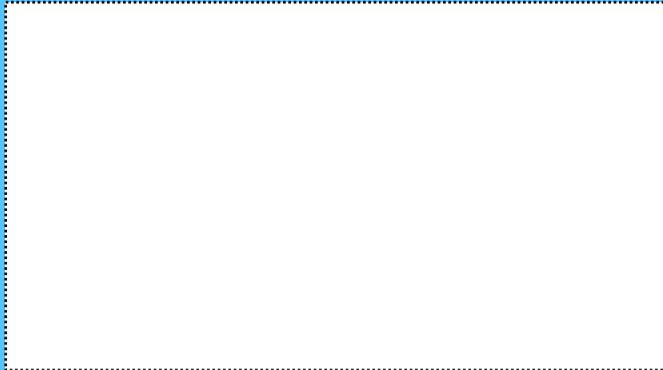
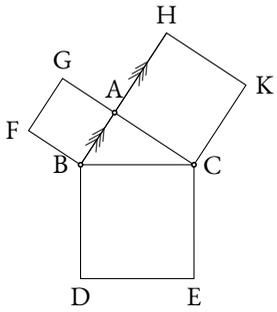
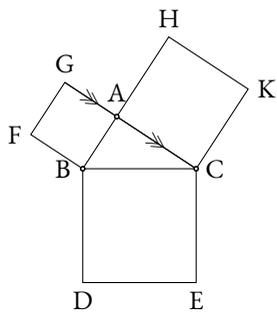


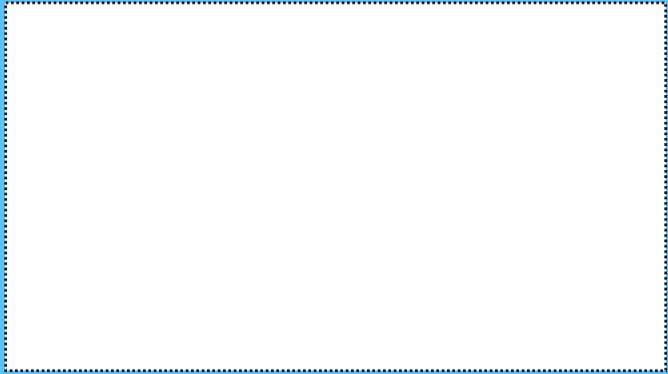
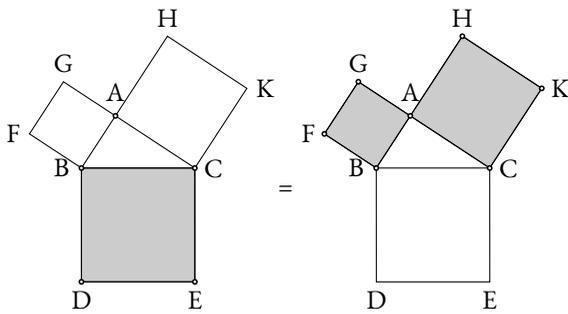
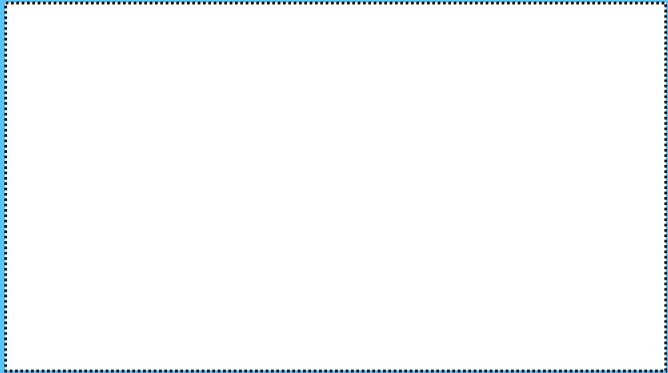
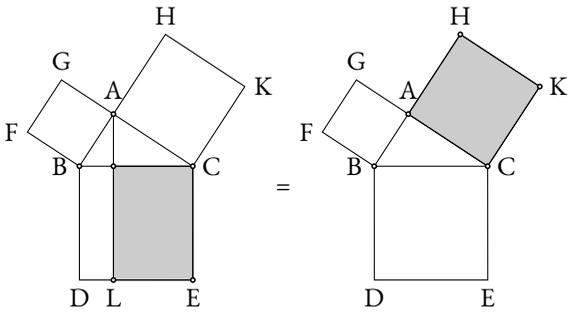
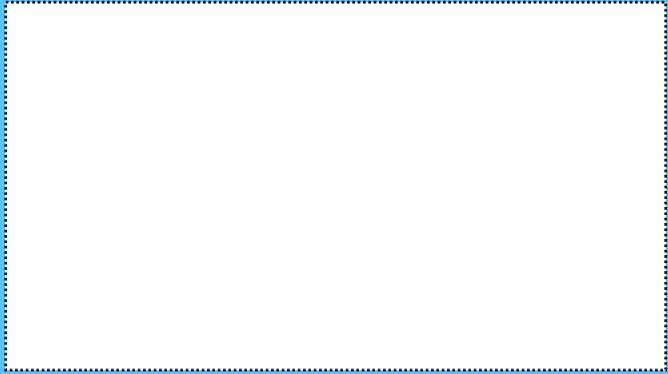
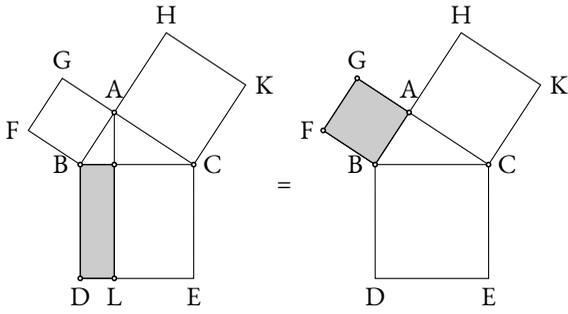
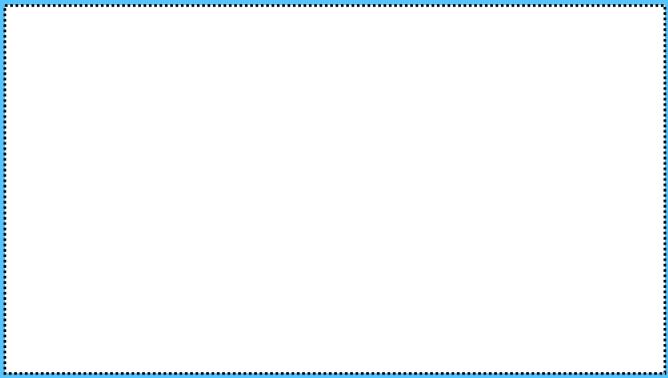
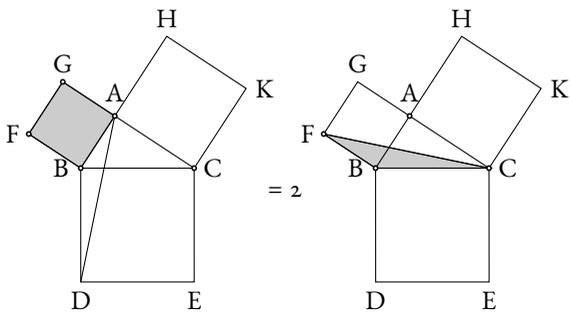
Proposition 47: right-angle $\Delta \Rightarrow a^2 + b^2 = c^2$.



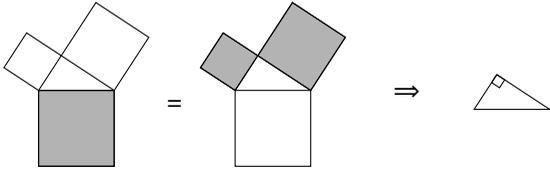
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Proposition 48: $a^2 + b^2 = c^2 \Rightarrow$ right-angle Δ .



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