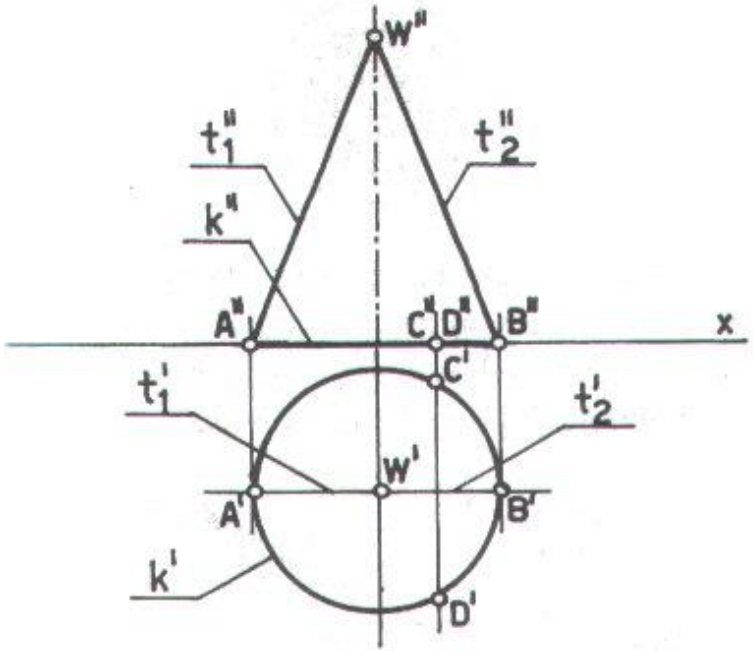
Politechnika Wrocławska

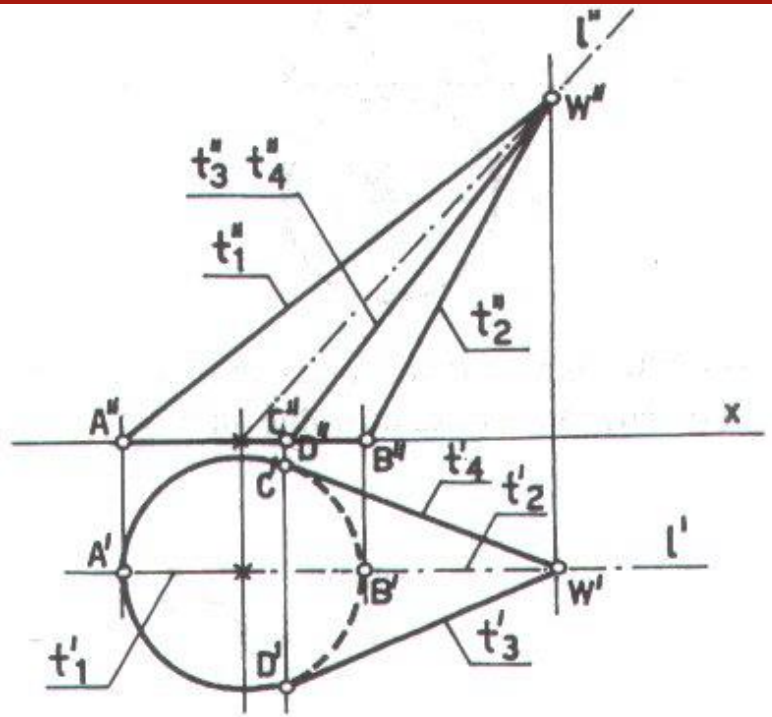
Fundamentals of engineering drawing, p.4

dr inż. Stanisław Frąckowiak

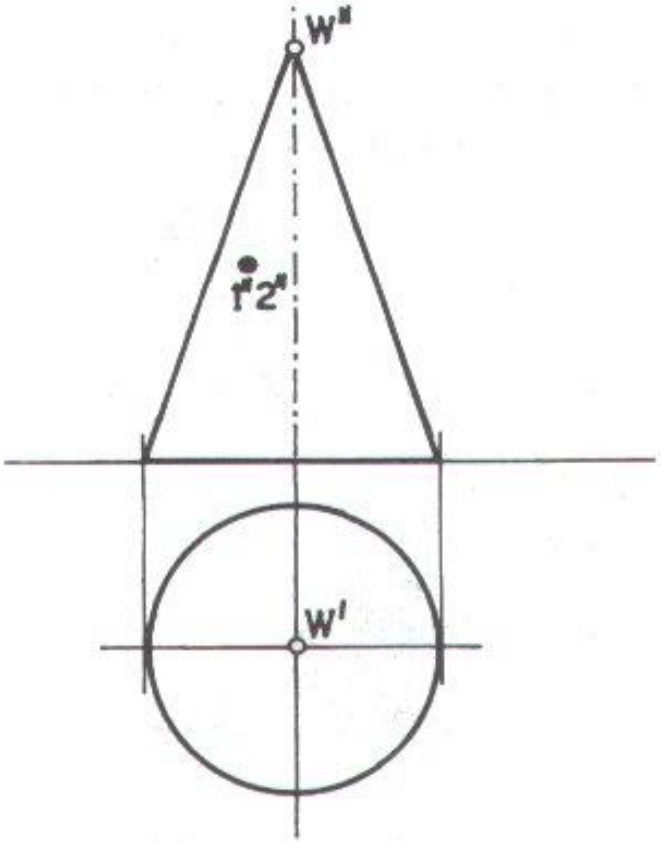
Curved lines and surfaces



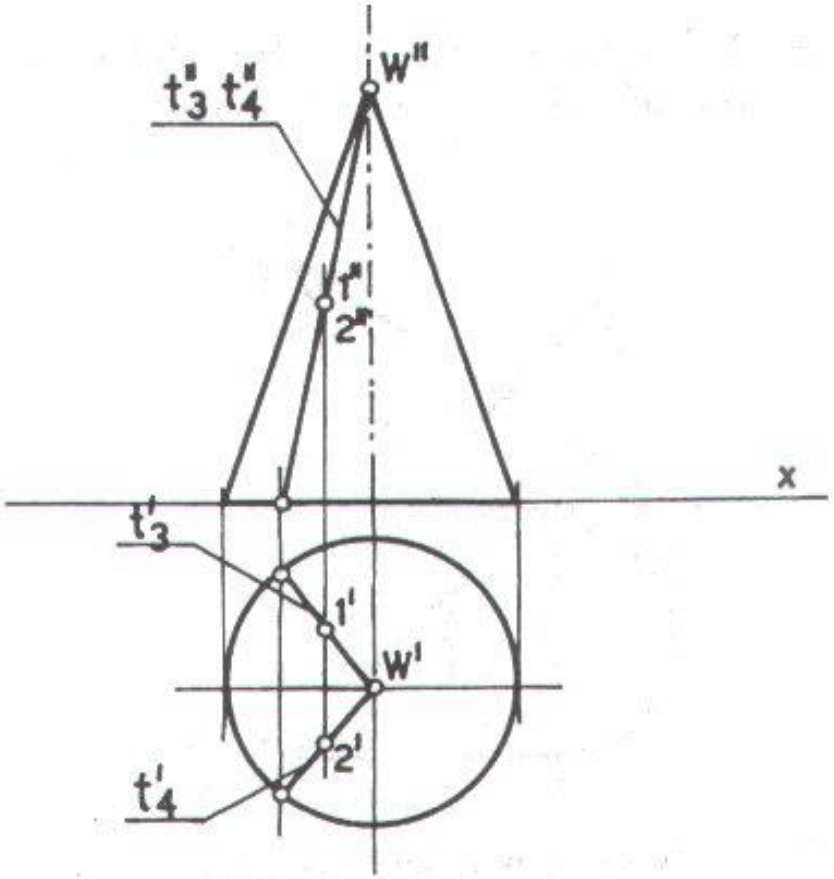
The points AB and CD lie on the circle k of the base of the cone of revolution. The projections of generators t1 and t2 are the vertical contour of the cone



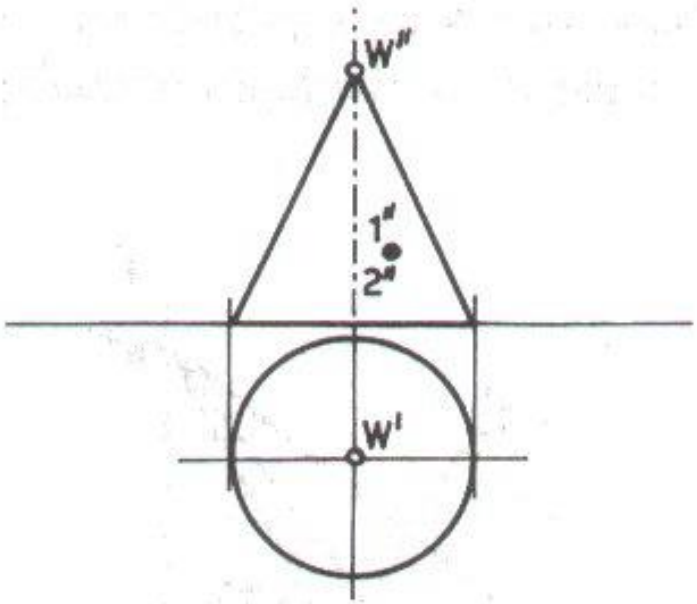
Projections of a non-rotating cone in the frontal position. The directrix lying in a plane perpendicular to the axis l is an ellipse. Forming contours of the vertical projection t1 and t2 - of the horizontal projection t3 and t4



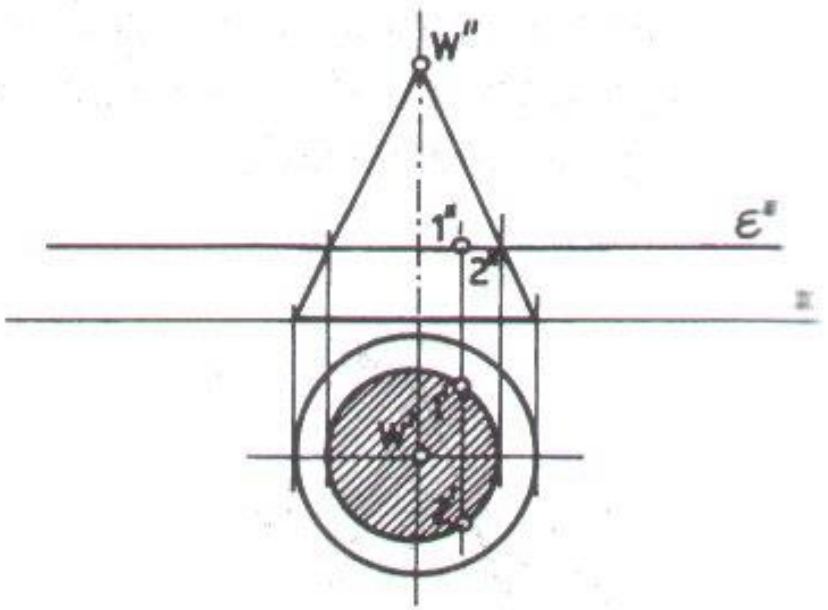
Given in the vertical projection lying on the surface of the cone any points 1 and 2



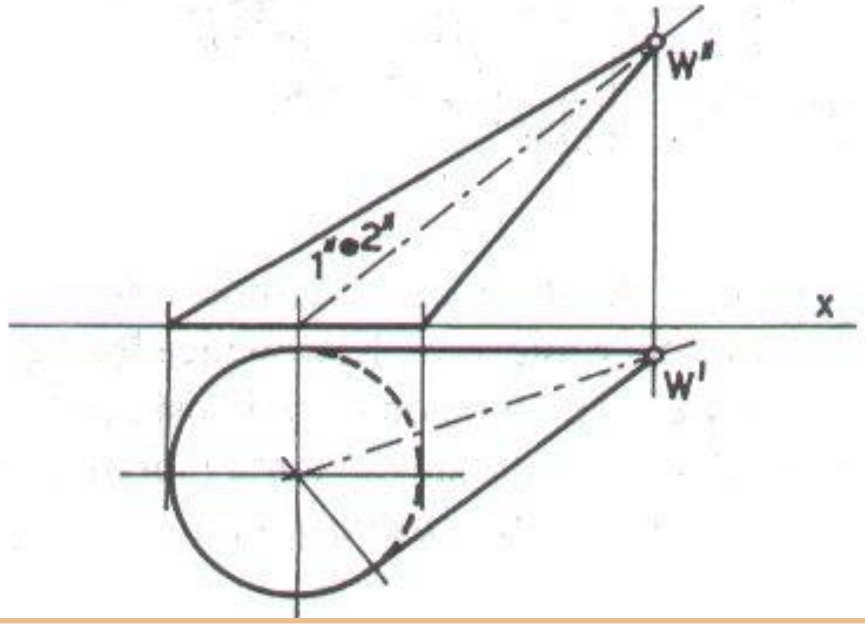
Establishing the horizontal projection of points 1 and 2 by drawing lines t3 and t4 through them



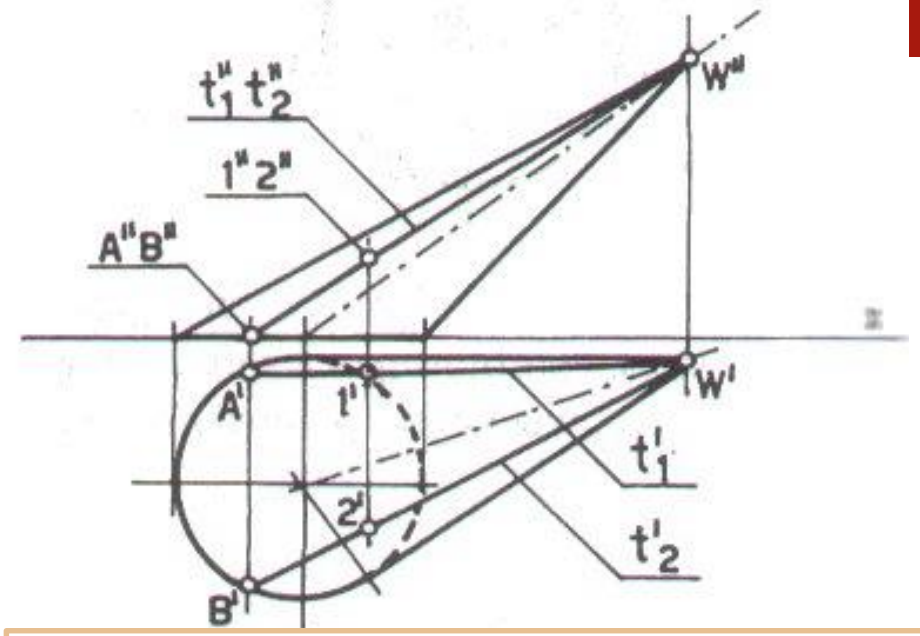
Given in the vertical projection lying on the surface of the cone any points 1 and 2



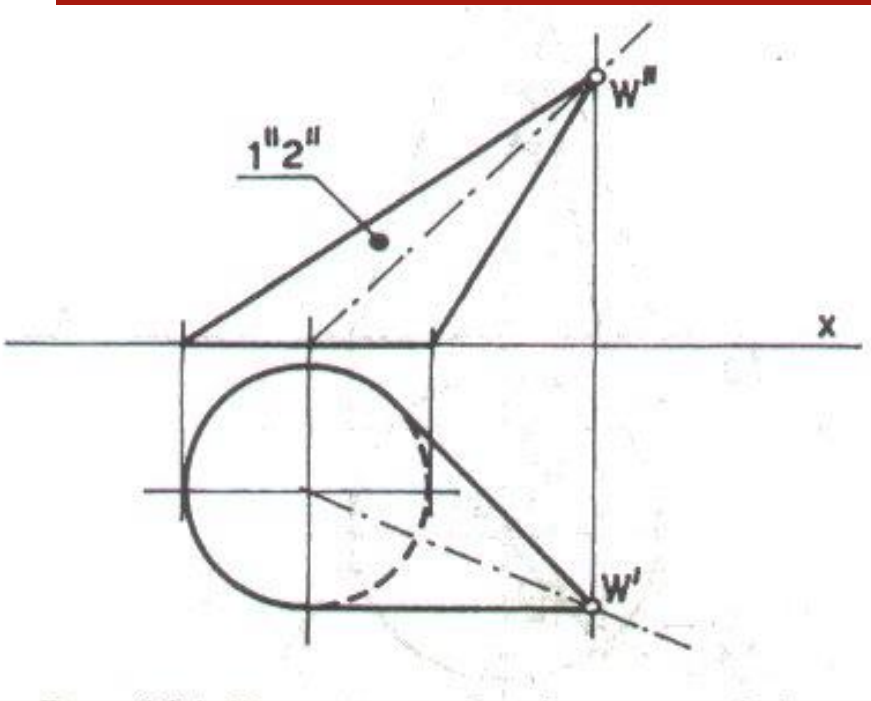
Determination of the horizontal projection of points 1 and 2 by drawing through them, cutting the cone in a circle, perpendicular to the axis l, parallel to the base of the plane ε



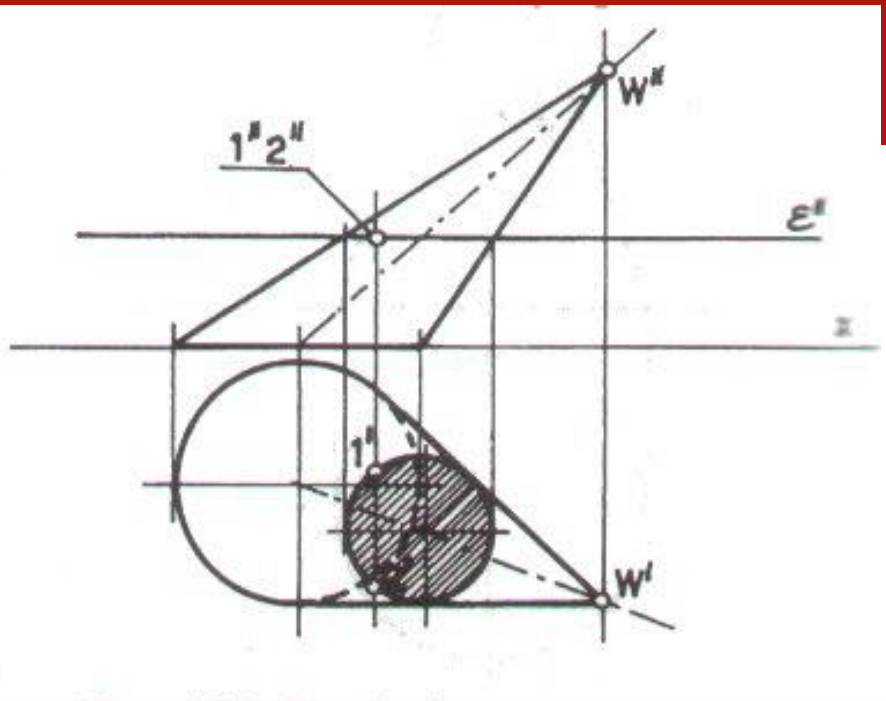
Given in the vertical projection lying on the surface of the cone any points 1 and 2



Establishing the horizontal projection of points 1 and 2 by passing through them the lines forming t1 and t2

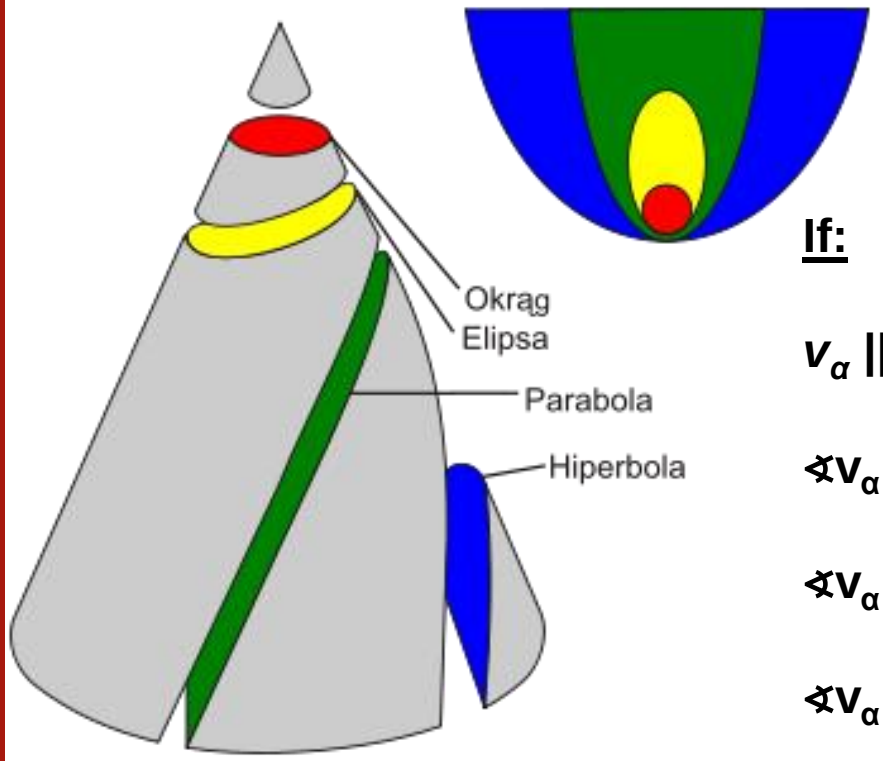


Given in the vertical projection lying on the surface of the cone any points 1 and 2



Determining the horizontal projection of points 1 and 2 by drawing through them a plane ε parallel to the cutting base of the cone in a circle

Conic curves



If:

$v_\alpha \parallel x_{1,2}$ then the result of the section is a circle

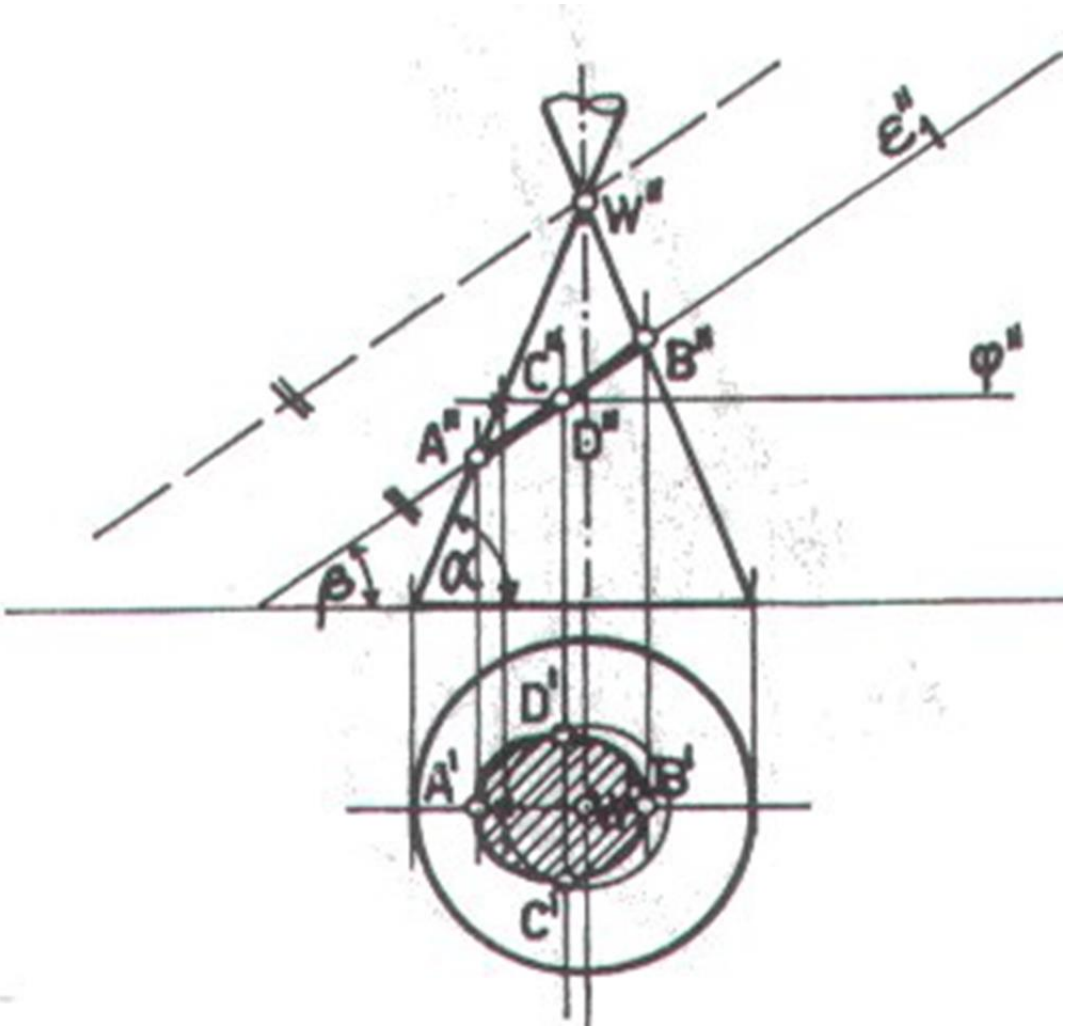
$\sphericalangle v_\alpha < \sphericalangle$ **forming this result is an ellipse**

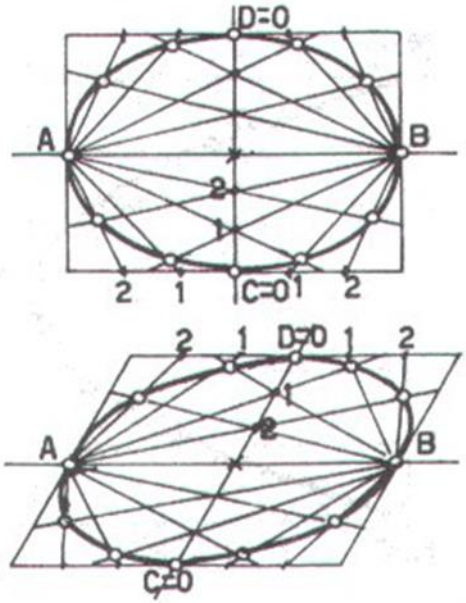
$\sphericalangle v_\alpha = \sphericalangle$ **forming this result is a parabola**

$\sphericalangle v_\alpha > \sphericalangle$ **forming this result is a hyperbola**

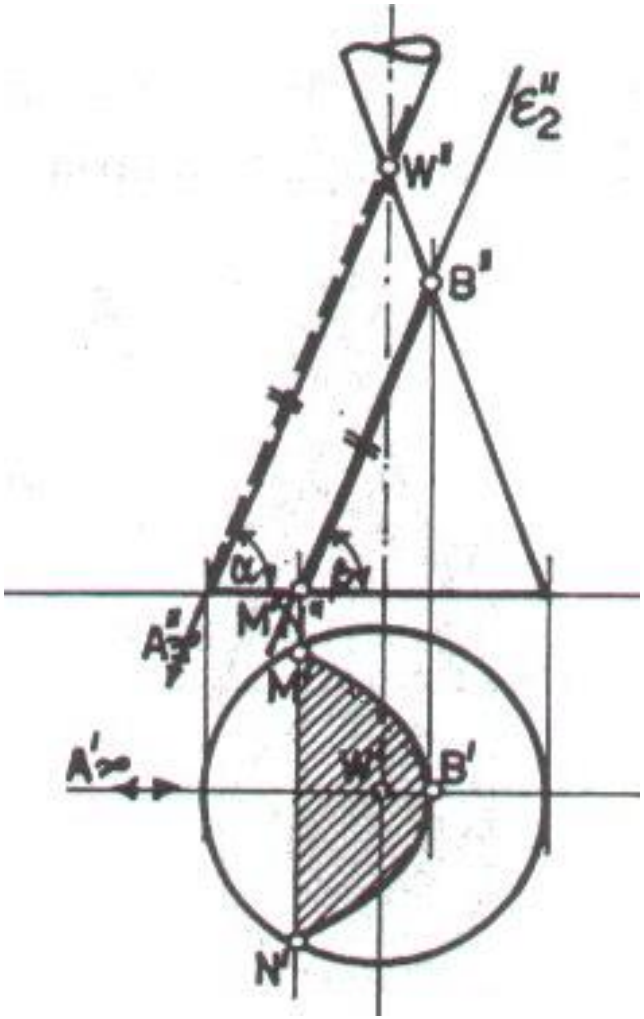
źródło:https://pl.wikipedia.org/wiki/Krzywa_stożkowa

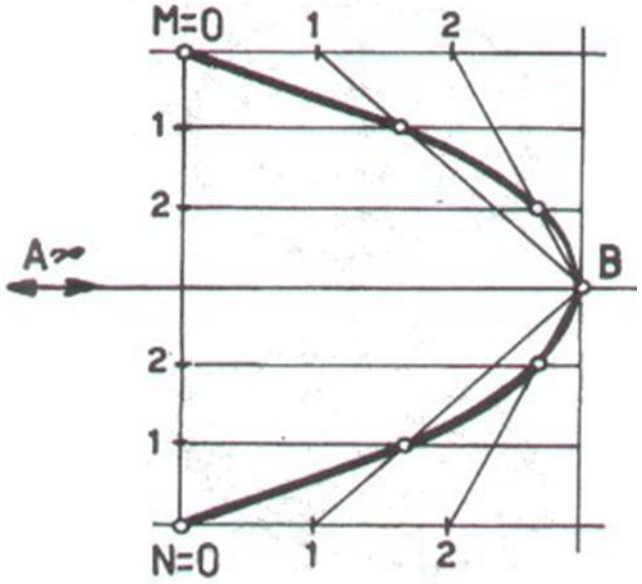
Conic curves - ellipse



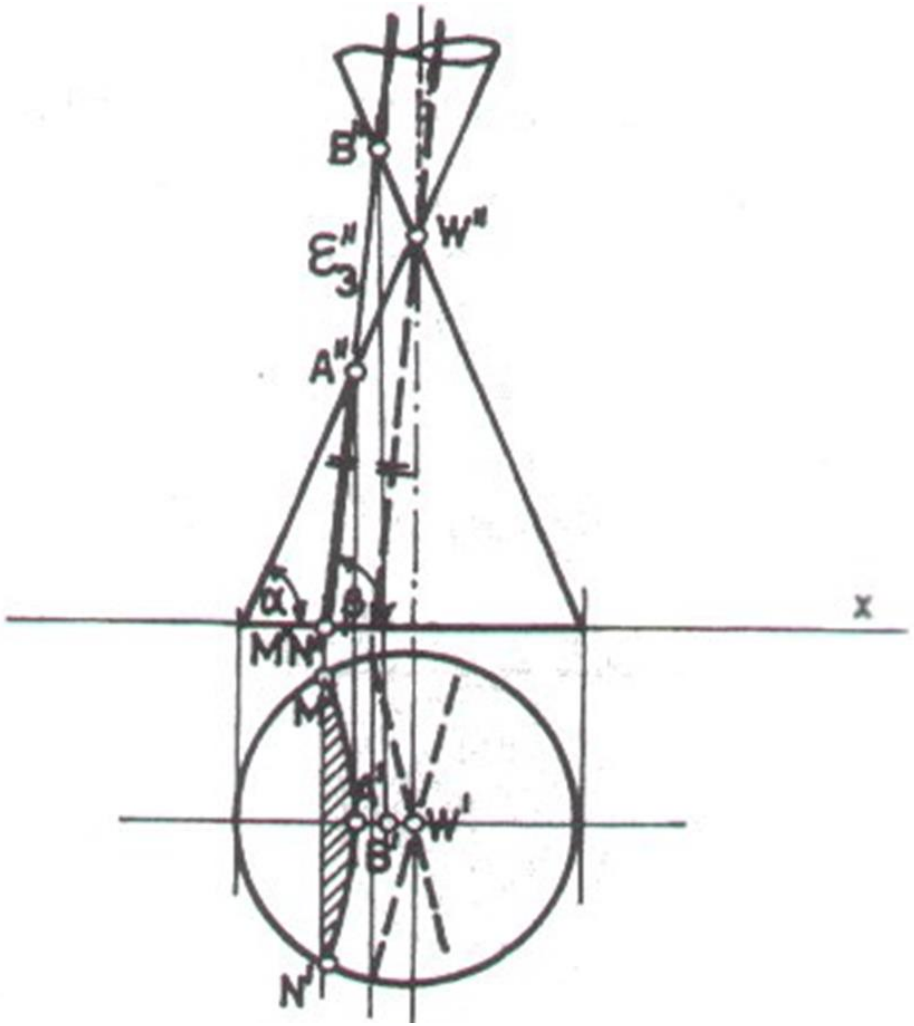


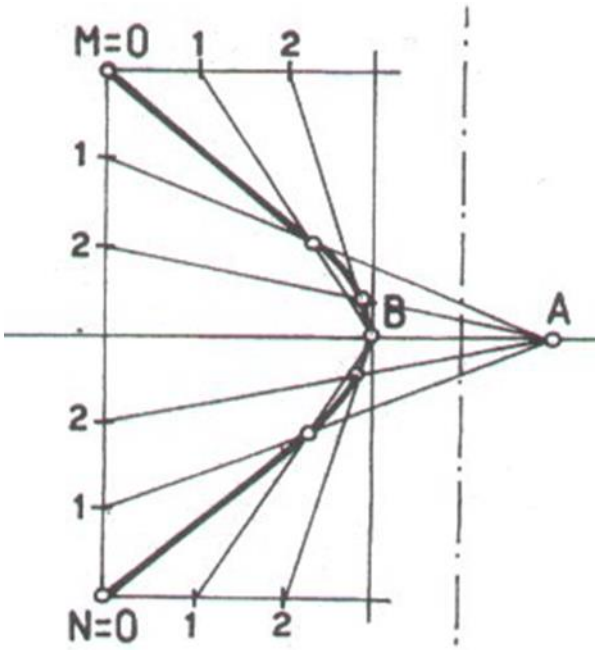
Conic curves - parabola



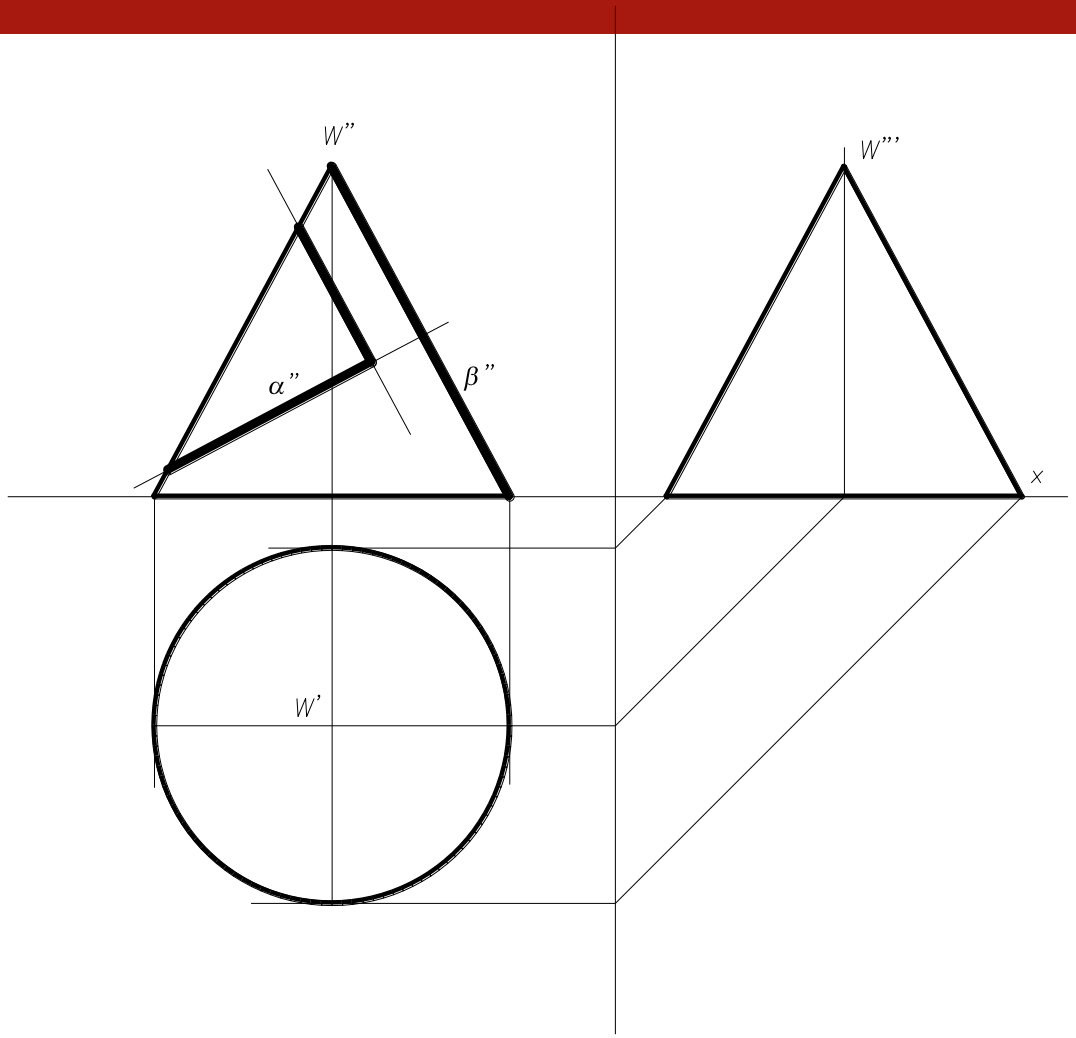


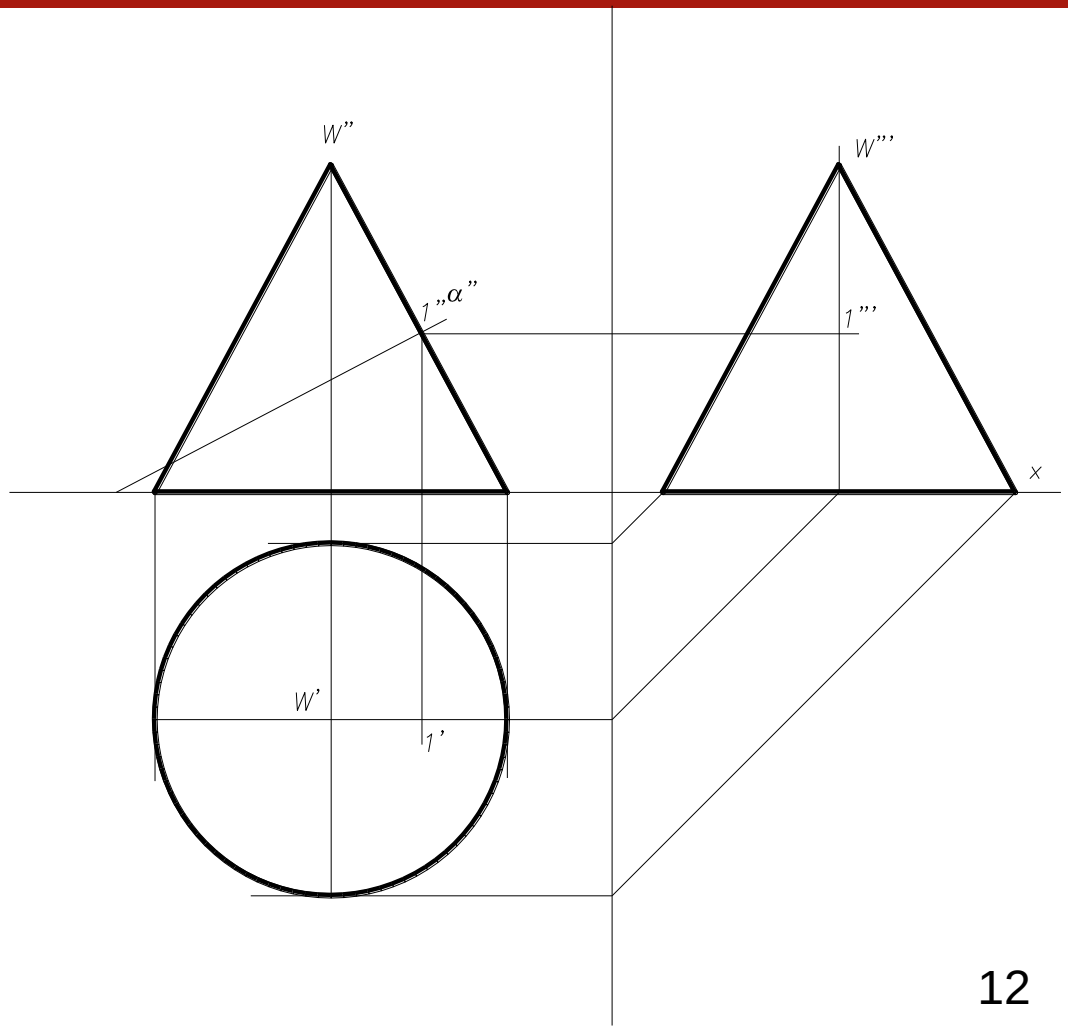
Conic curves - hyperbola





Cone broken pattern

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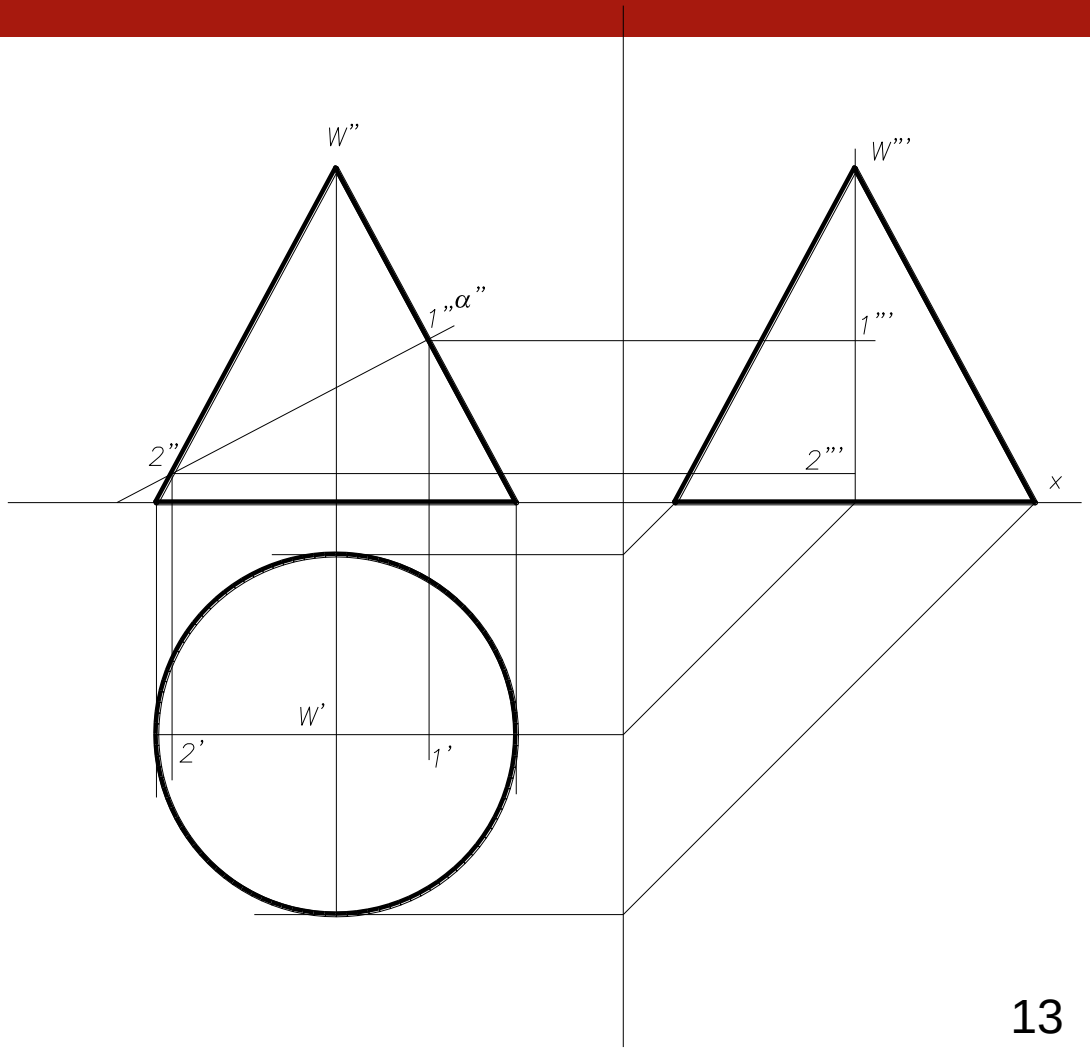
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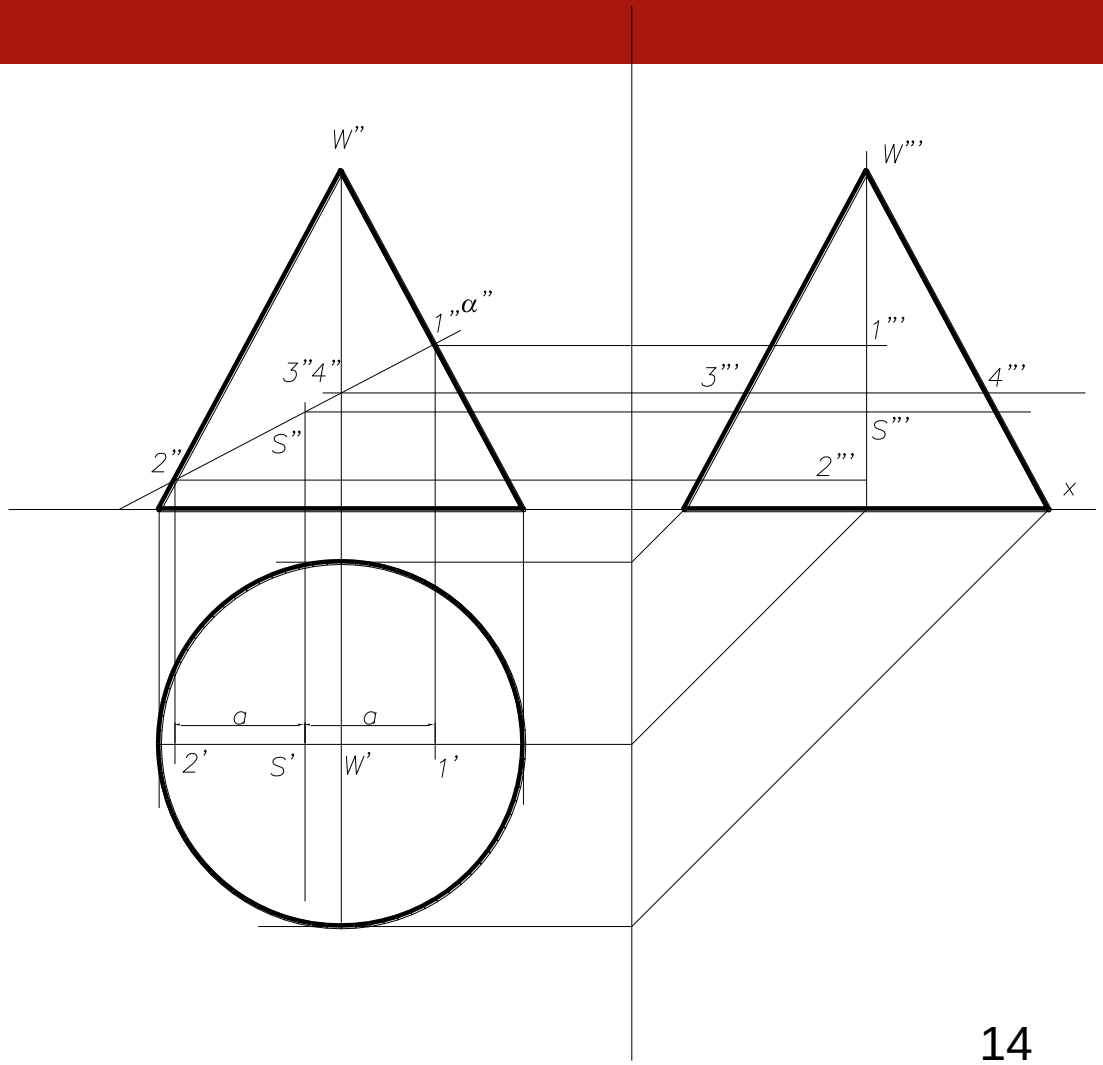
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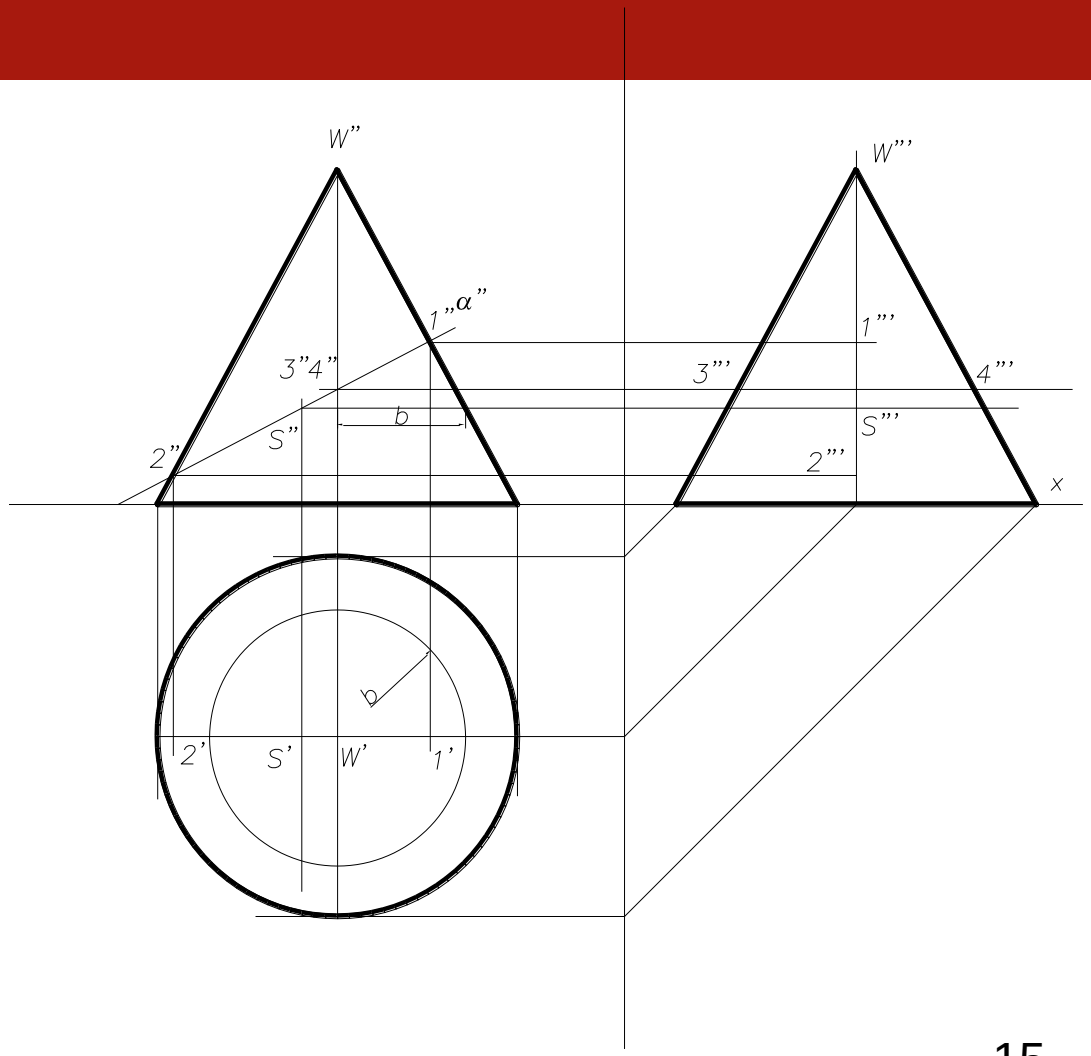
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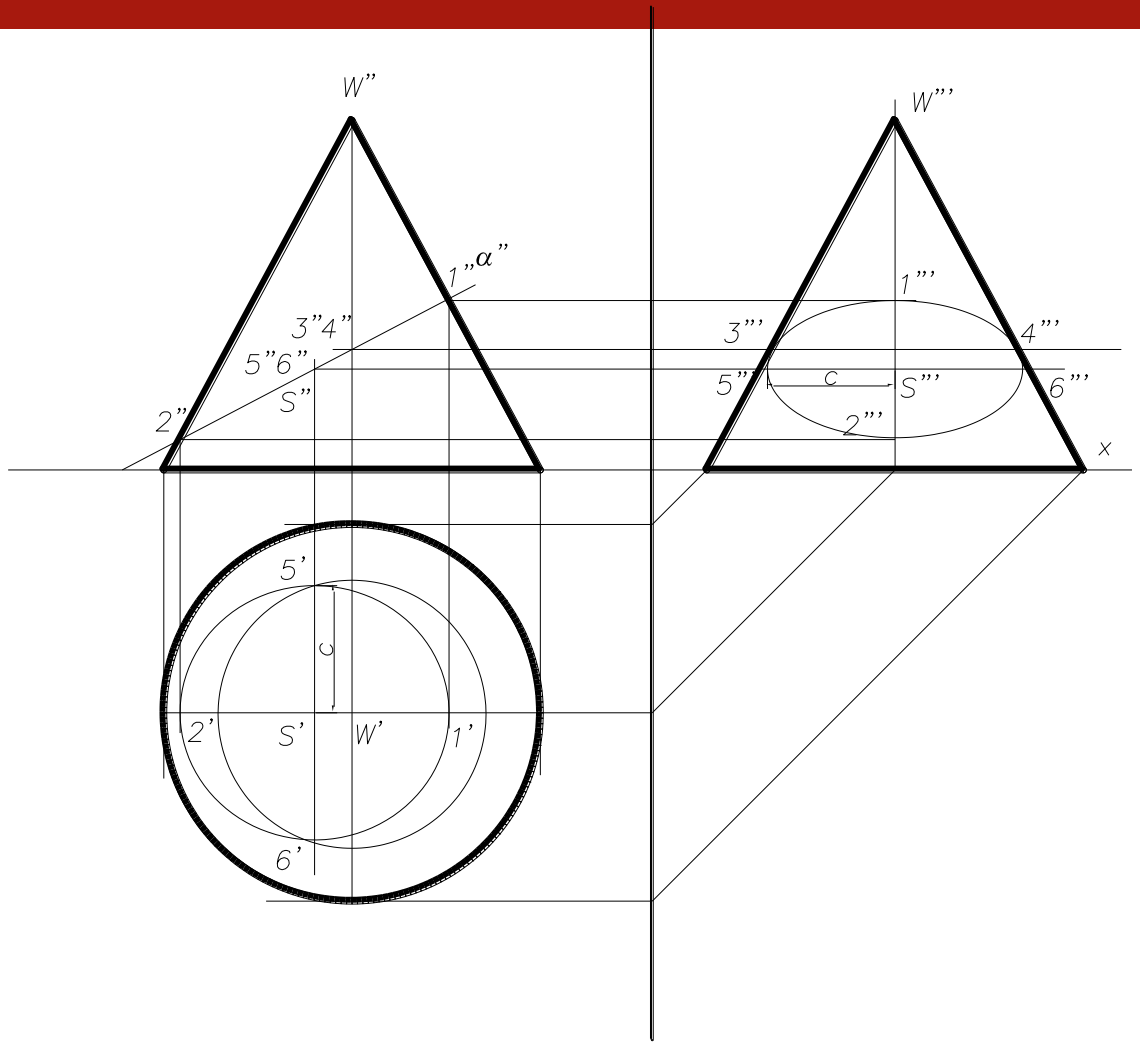
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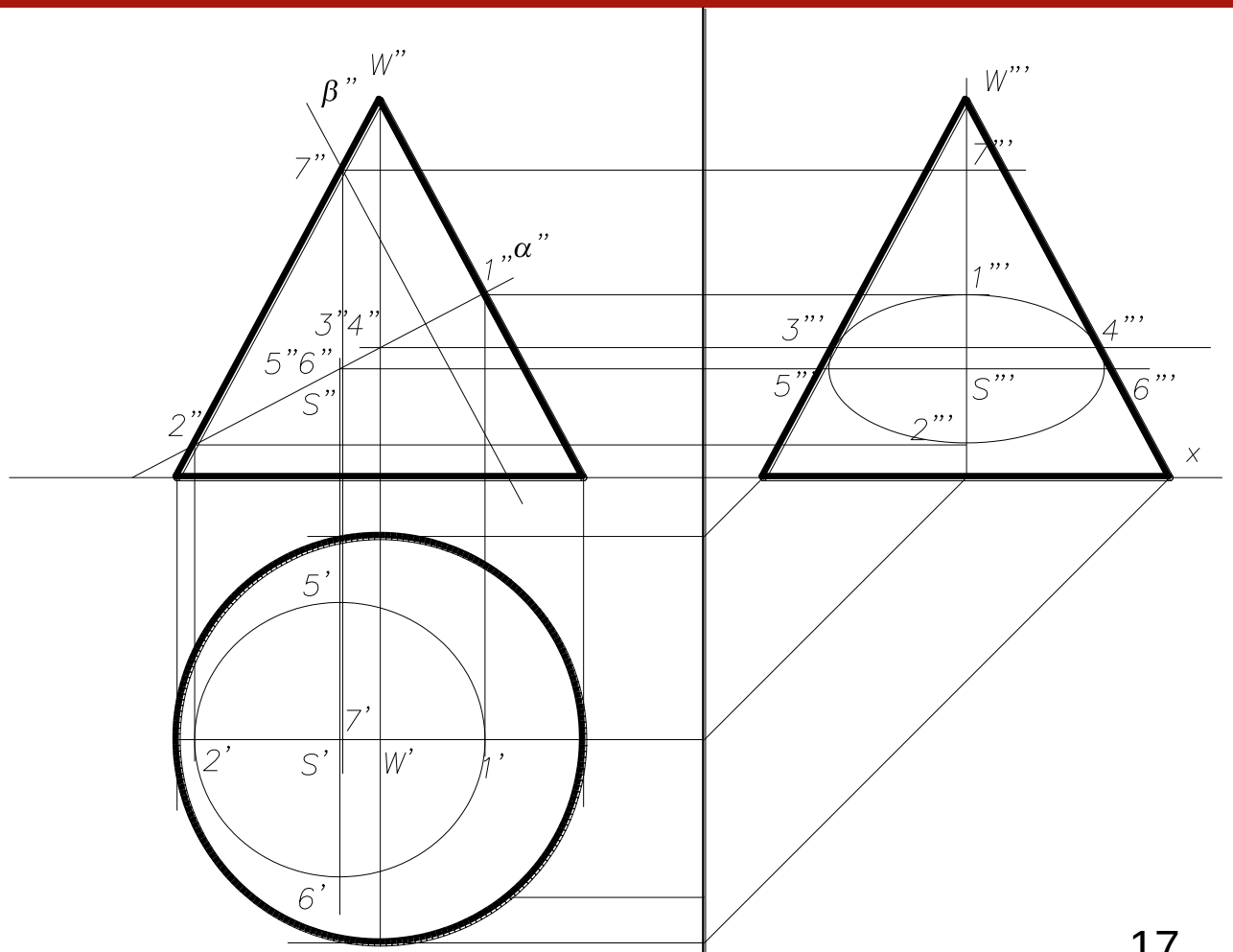
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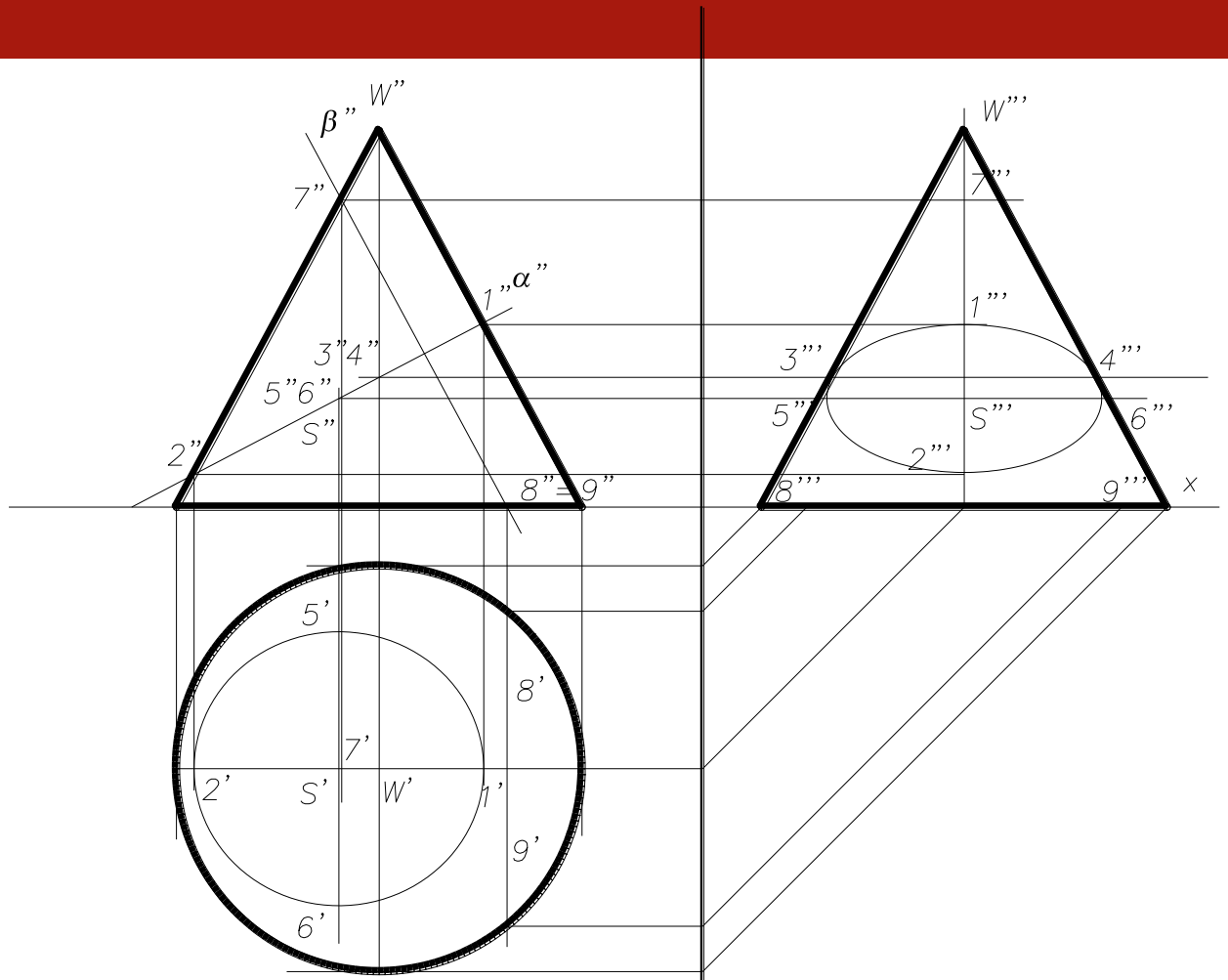
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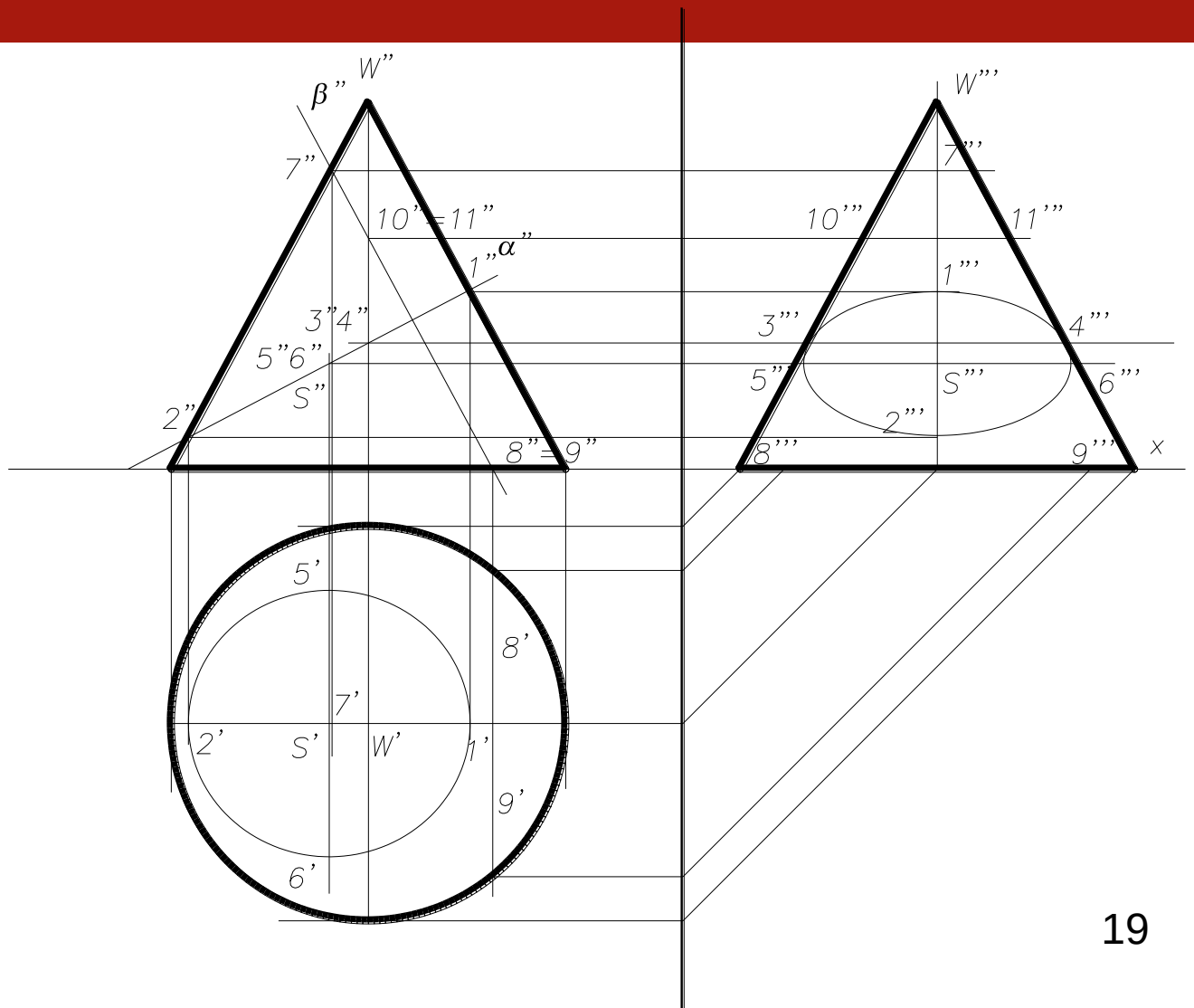
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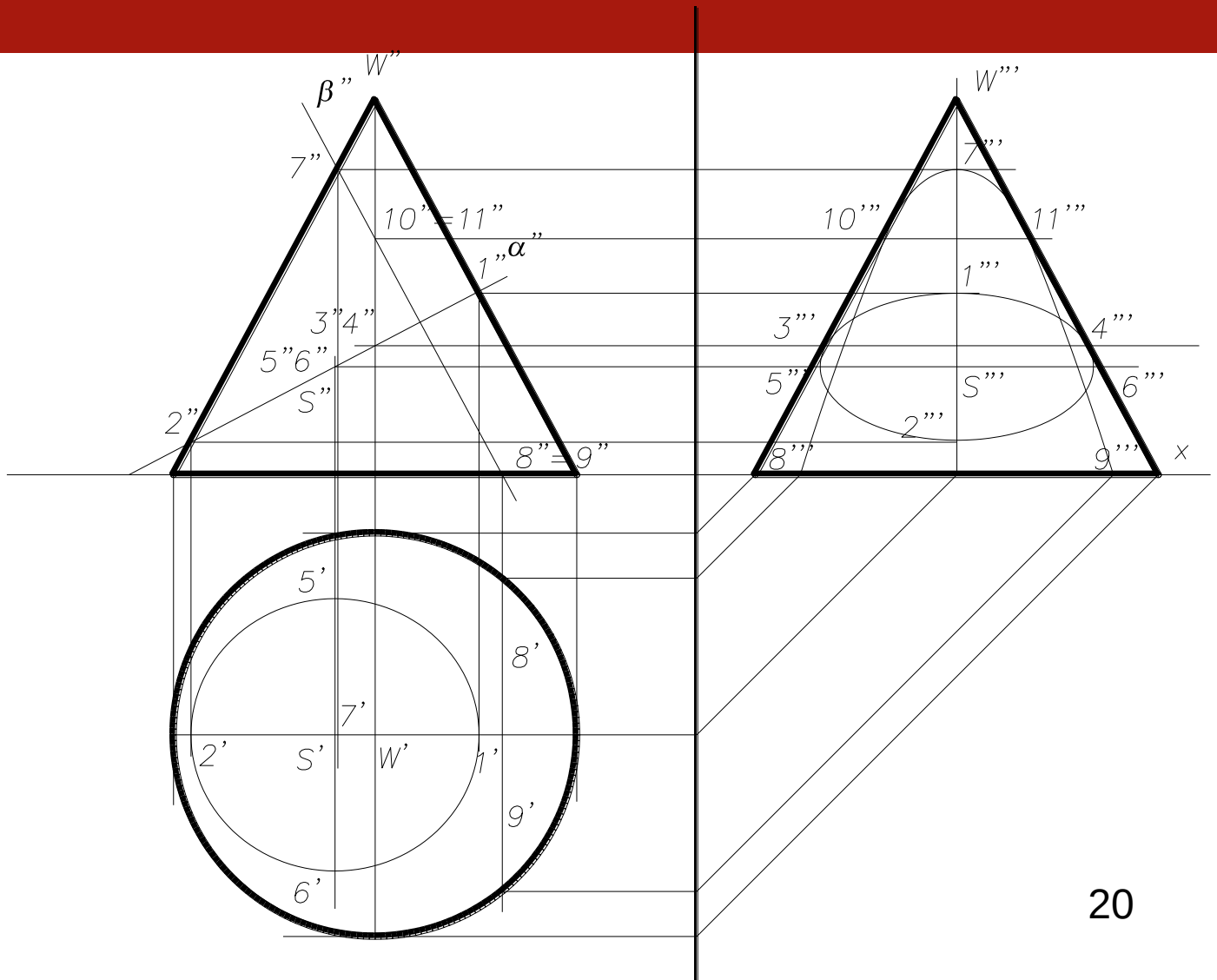
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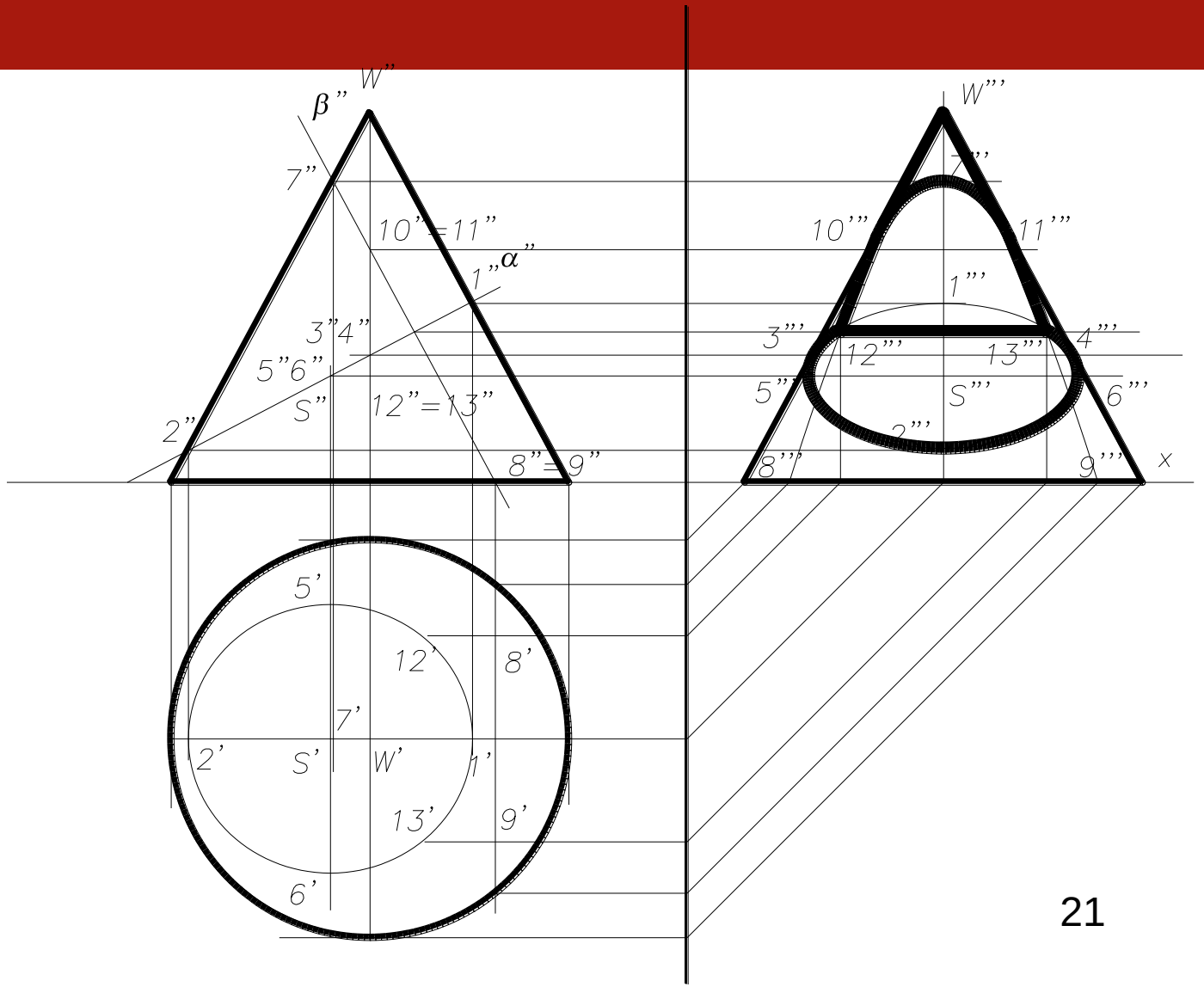
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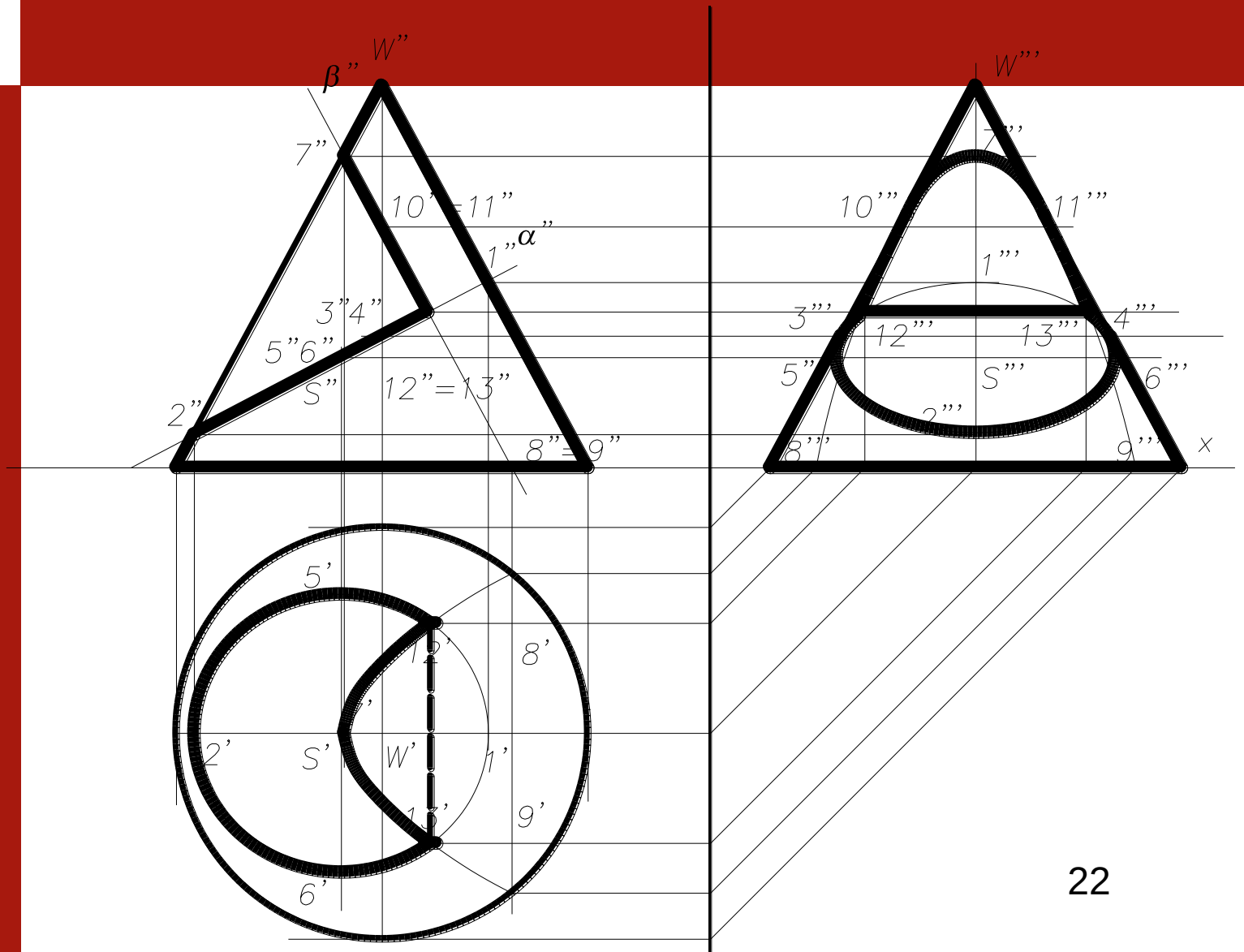
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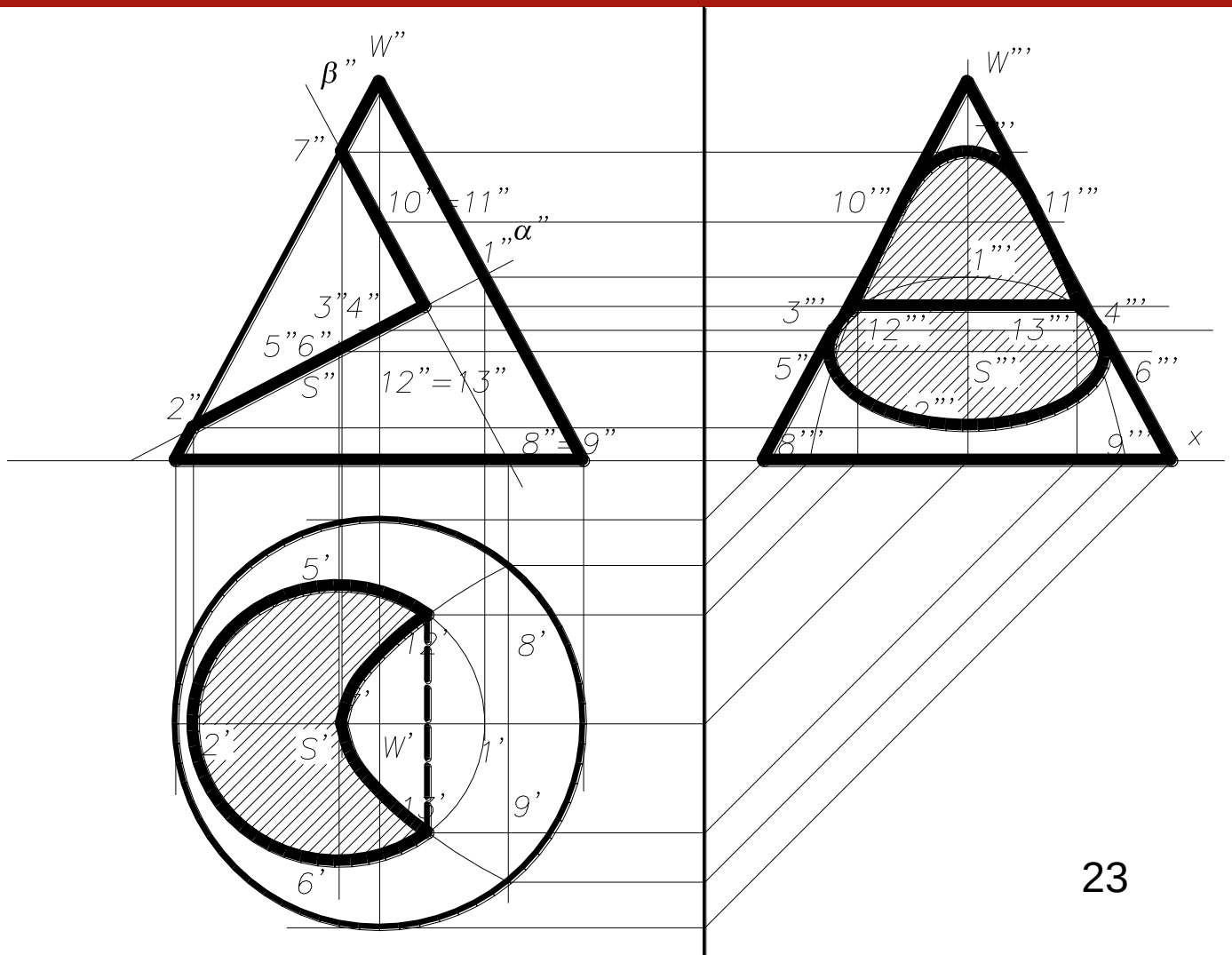
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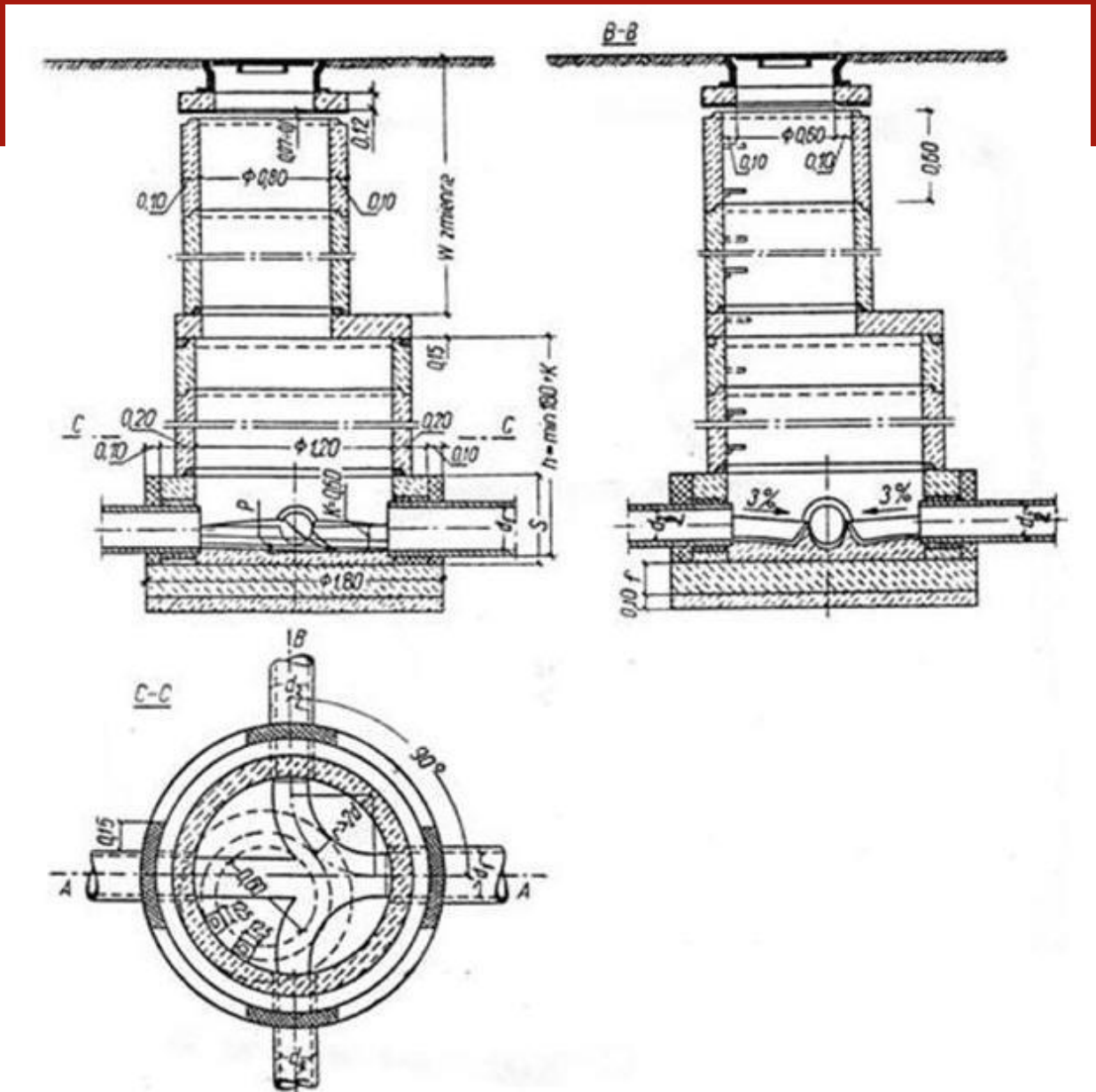
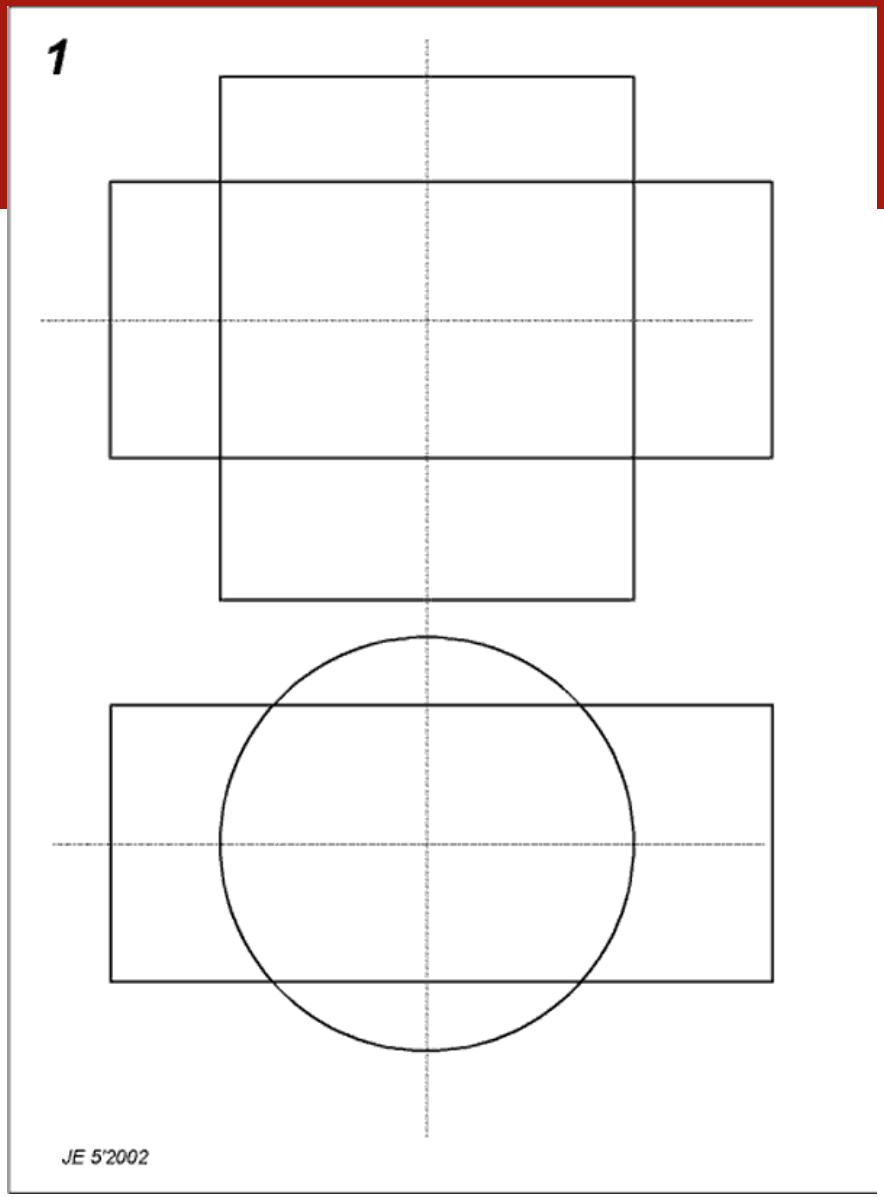
Cylinder penetration

Przenikanie walców



Cylinder penetration

Źródło: https://hydrokan.com/galeria/



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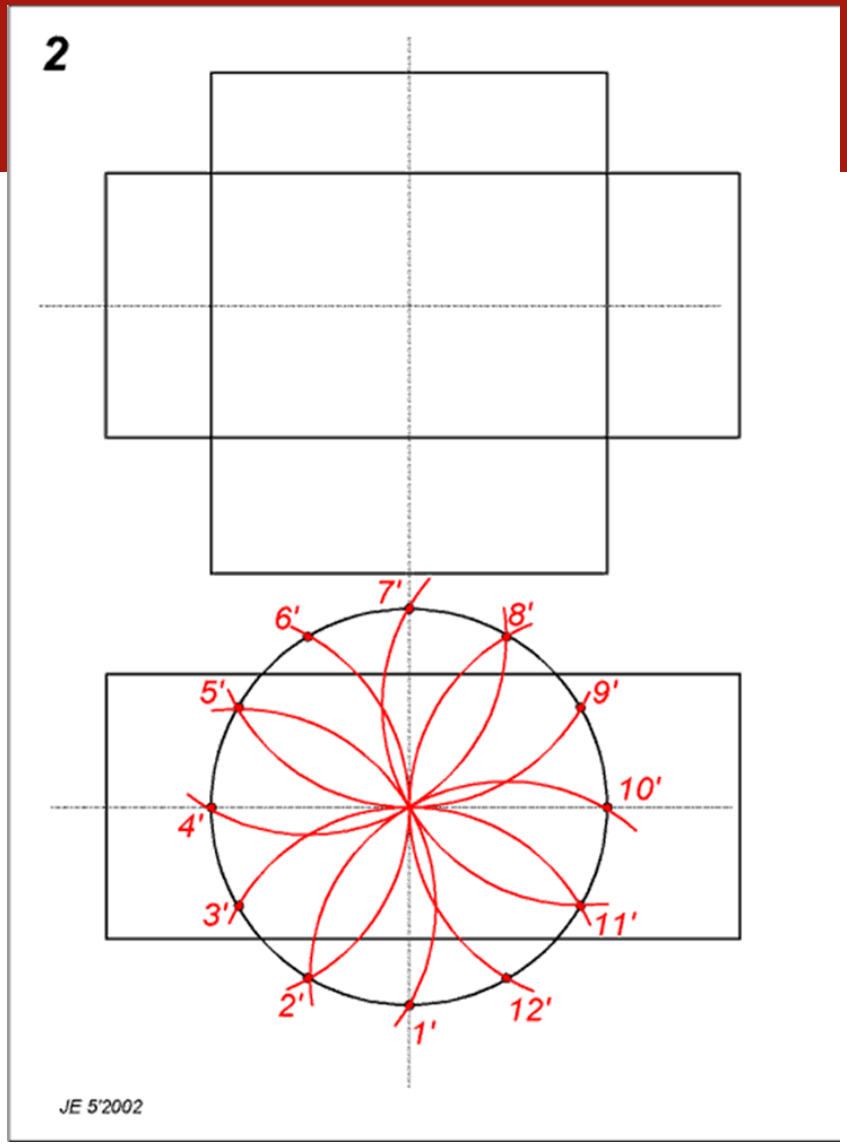

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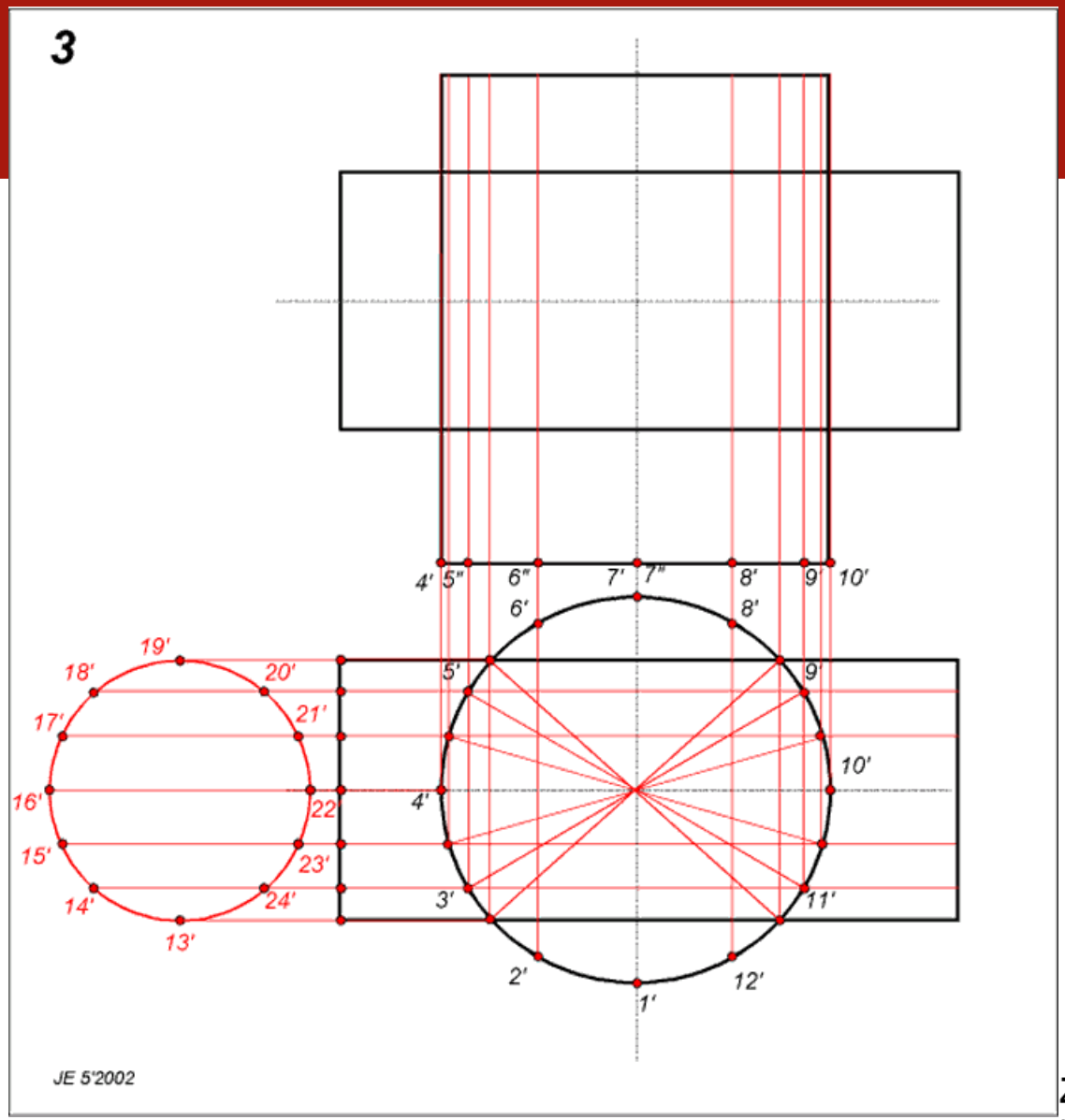

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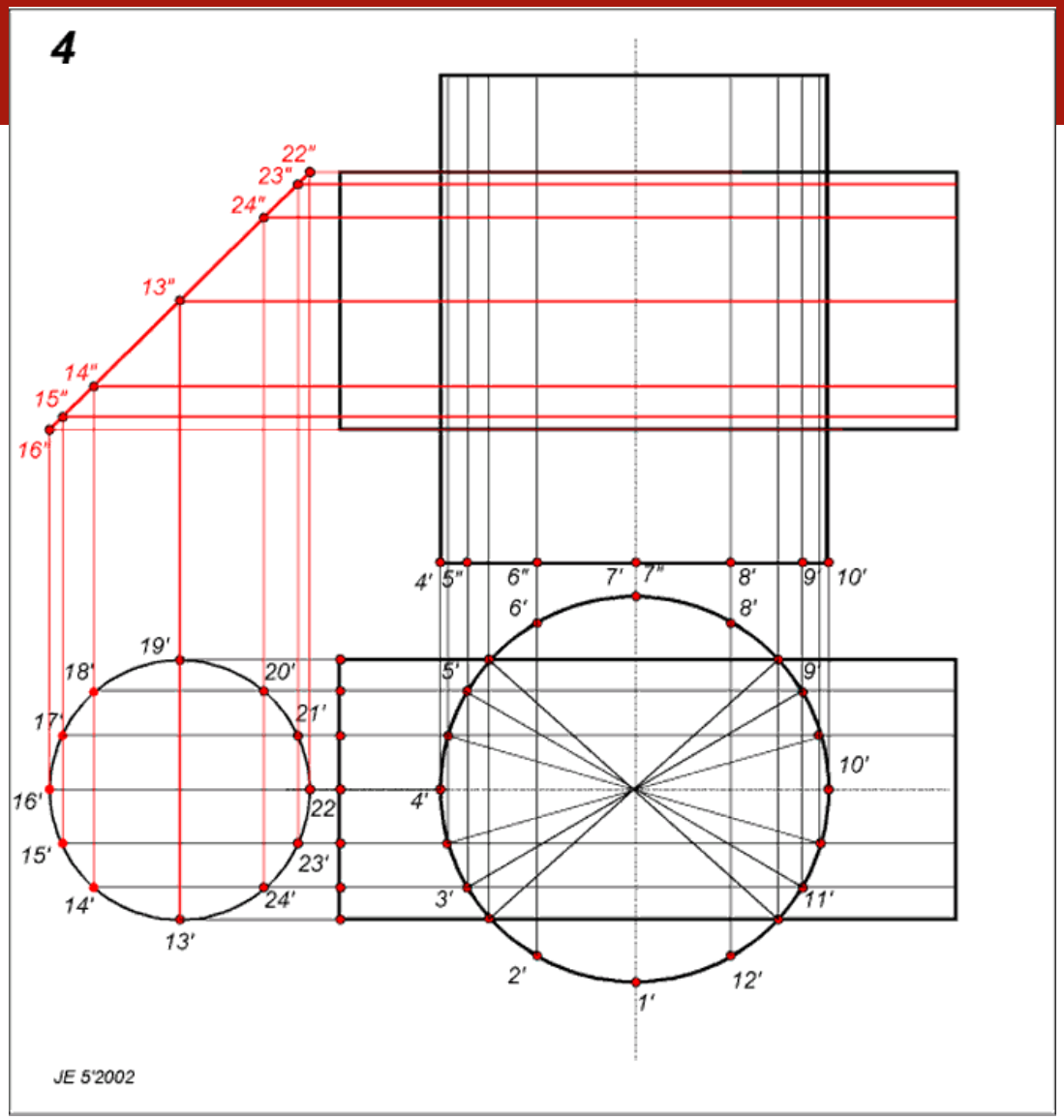

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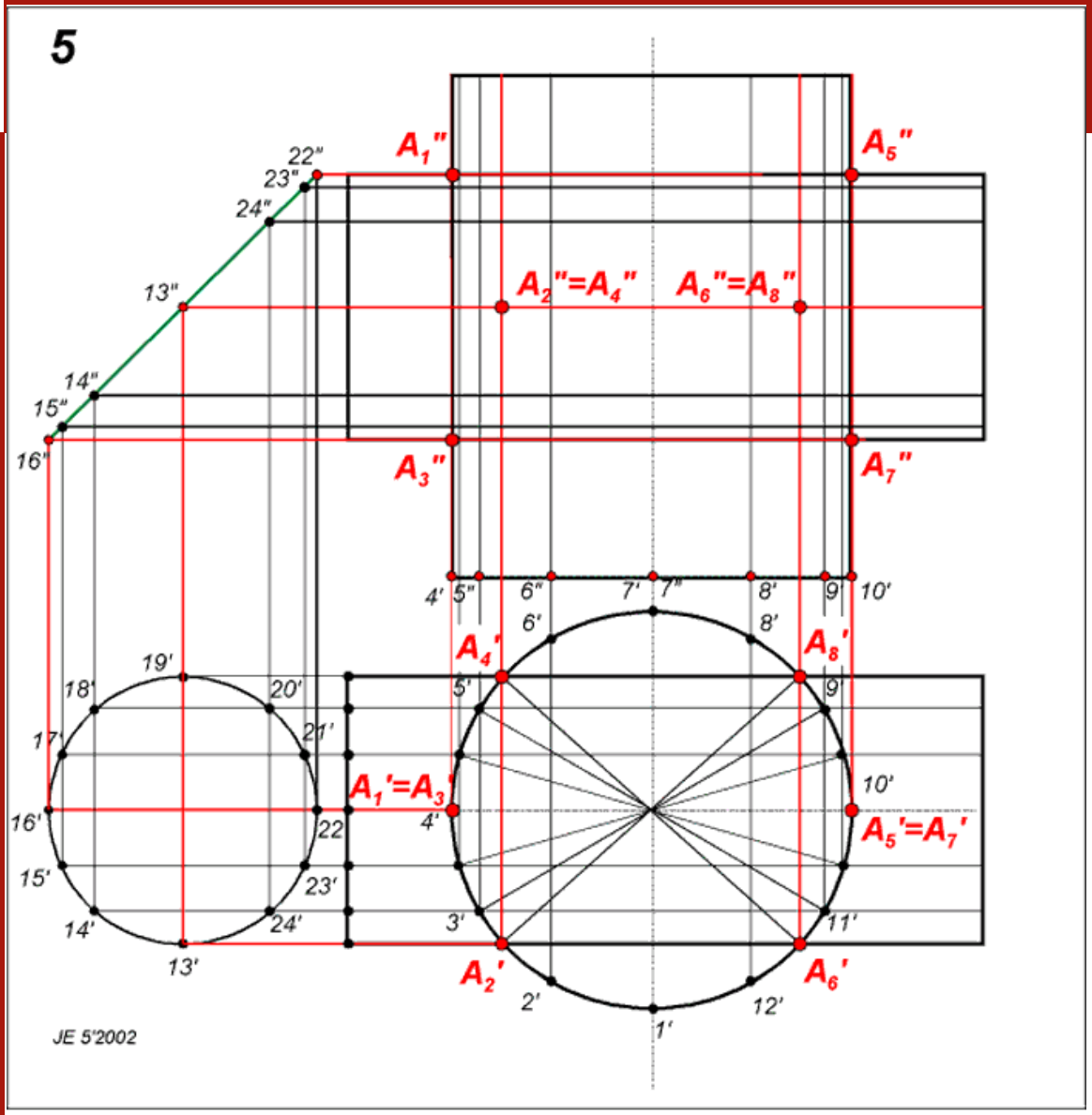

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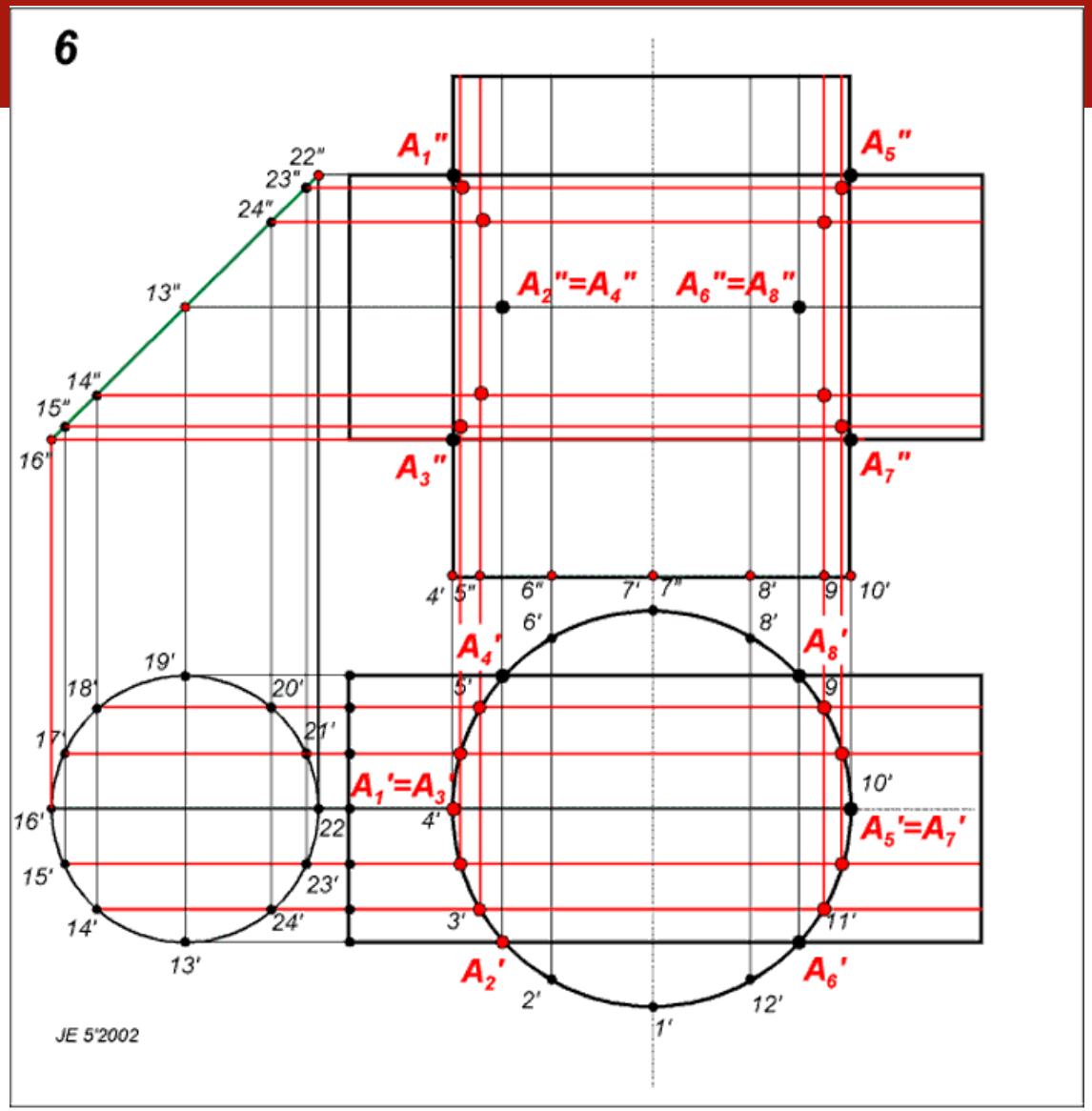

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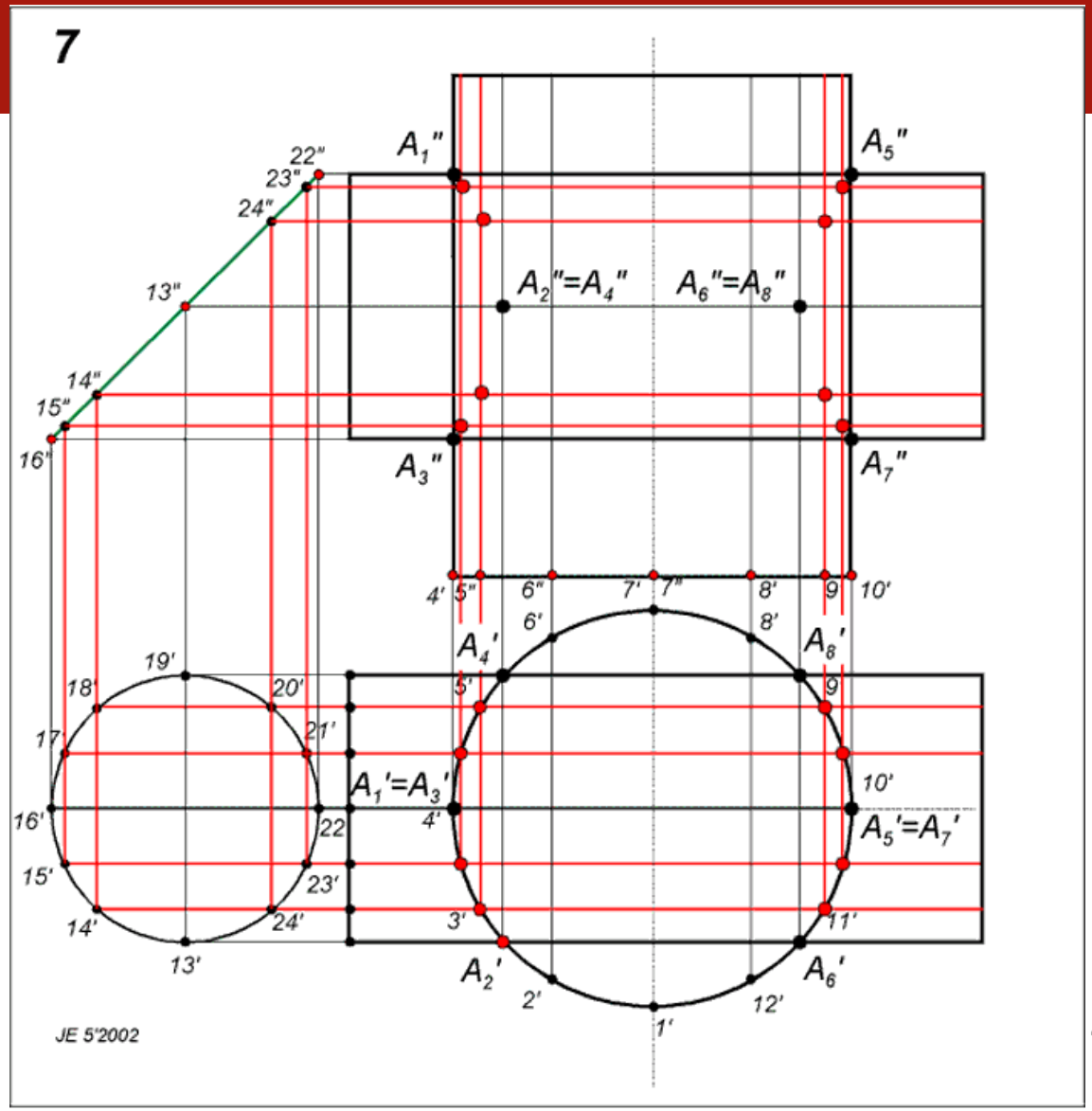

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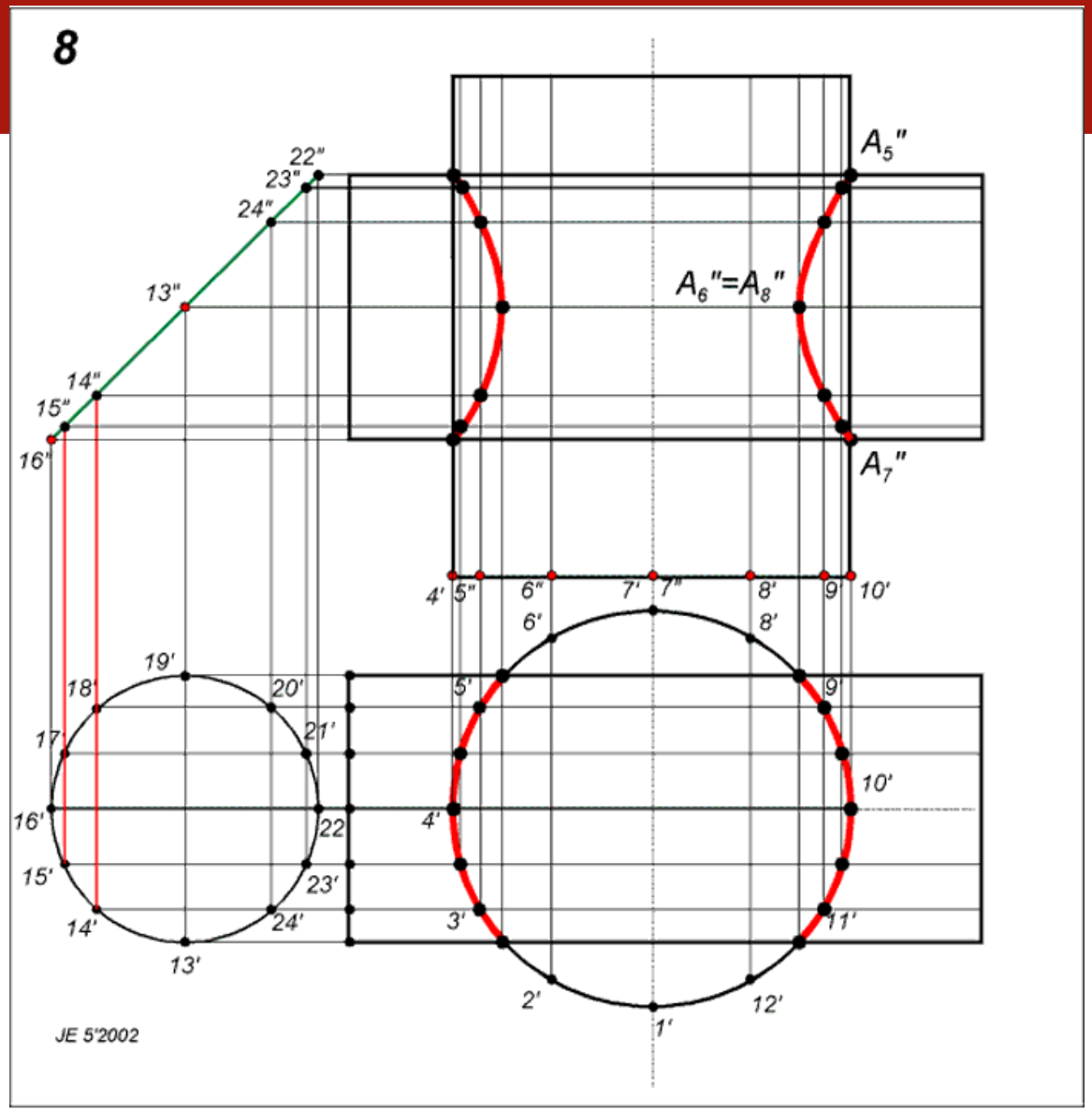

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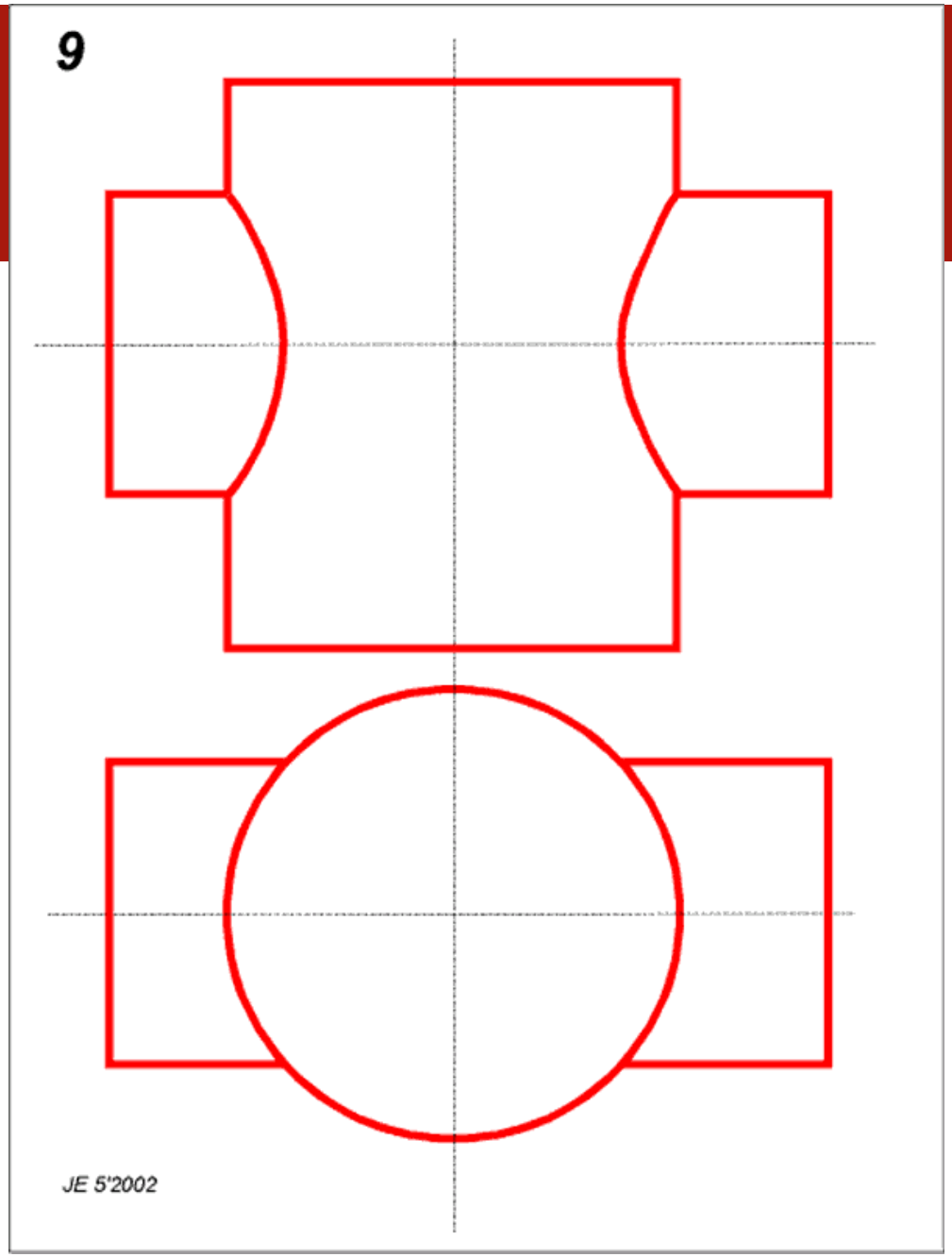

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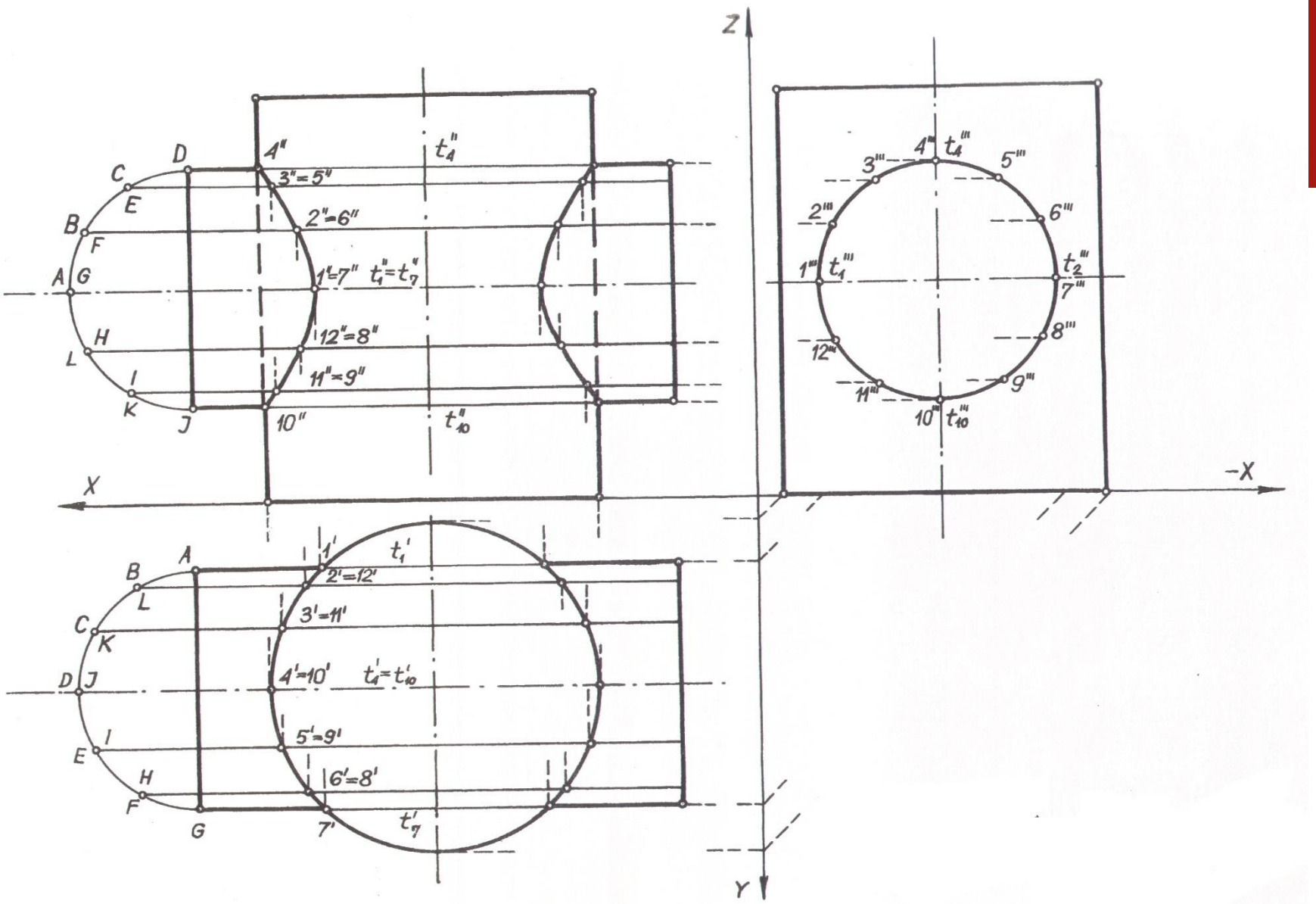
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7'
t_1'
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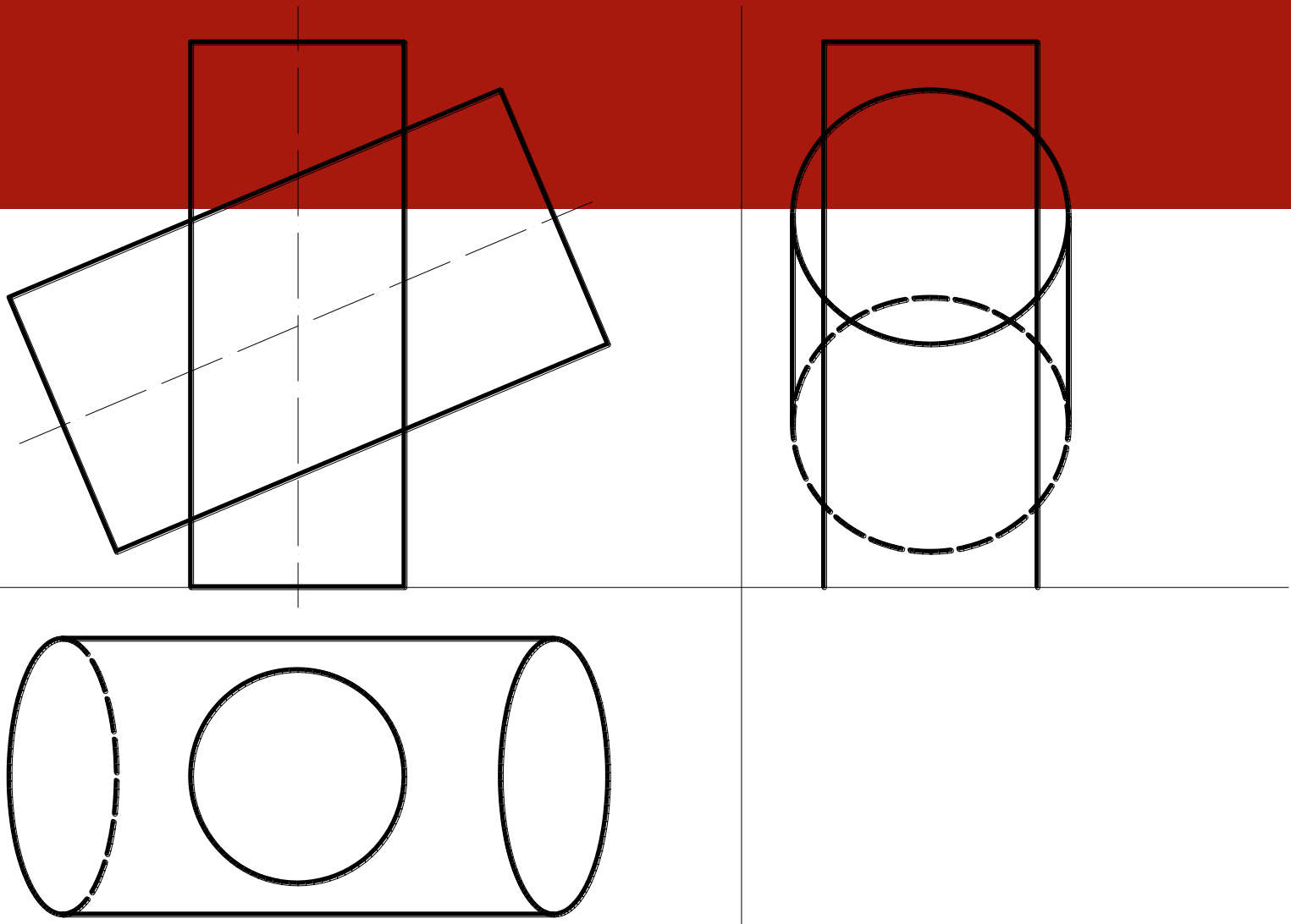
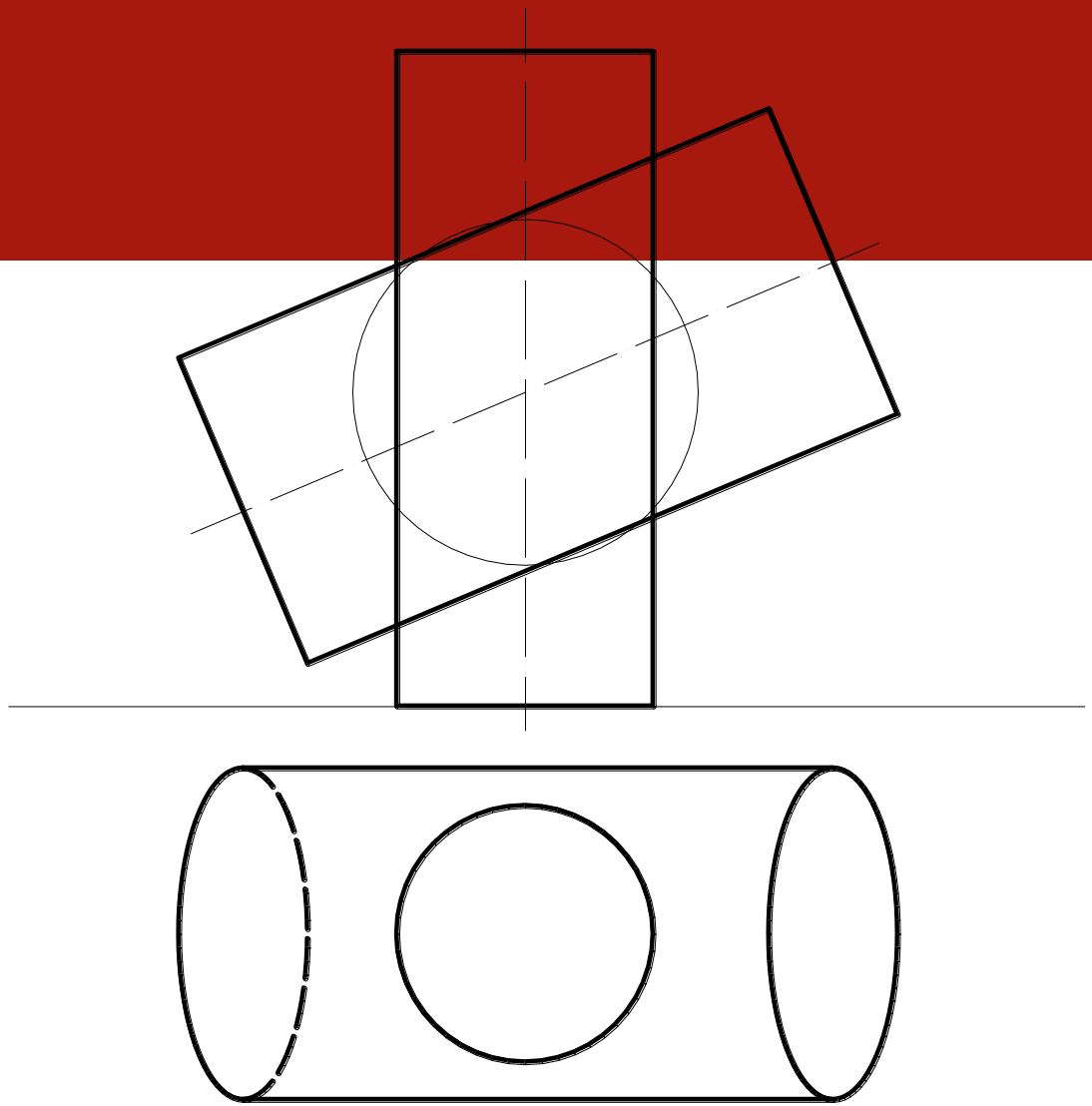
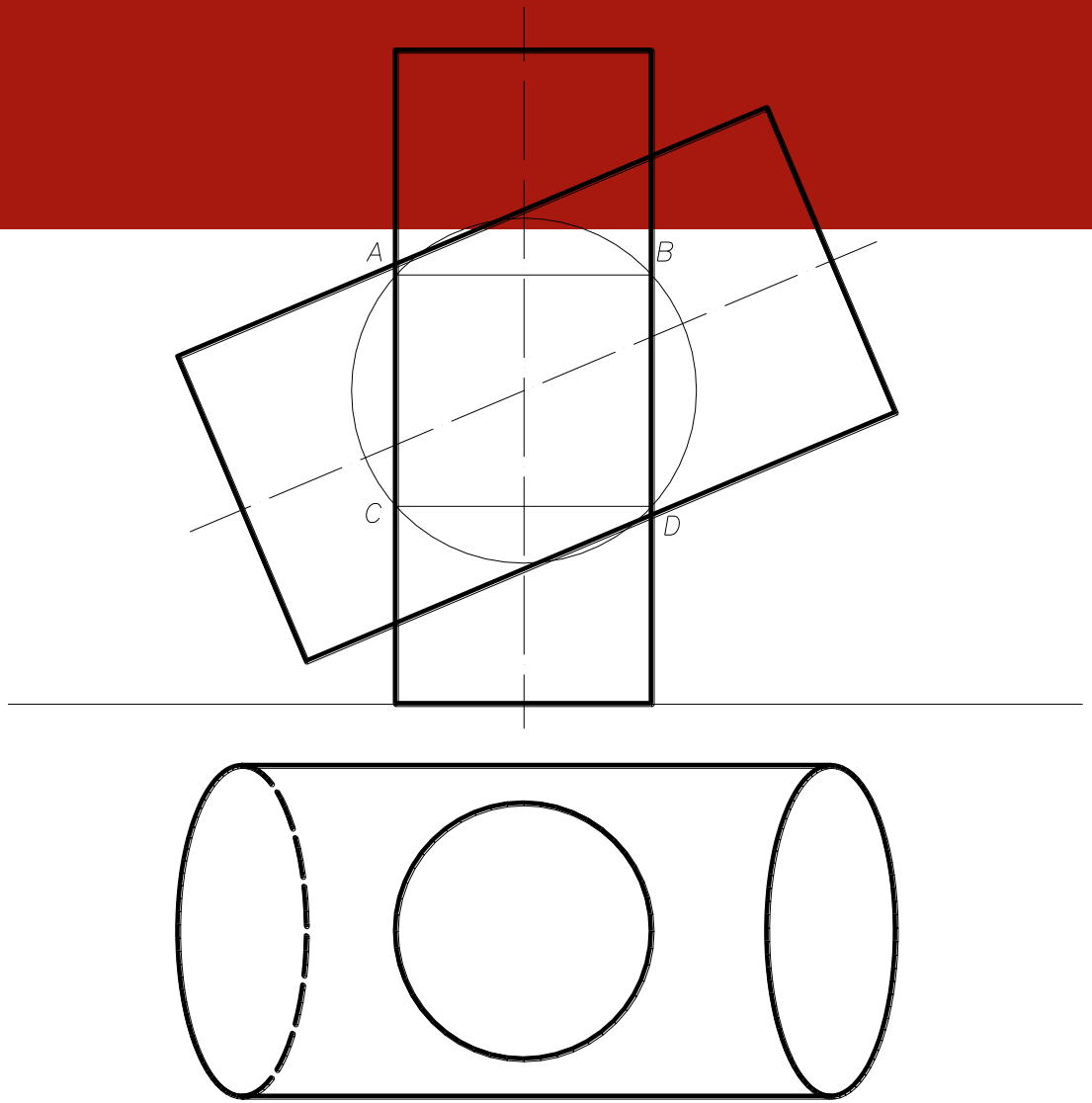
t_7'



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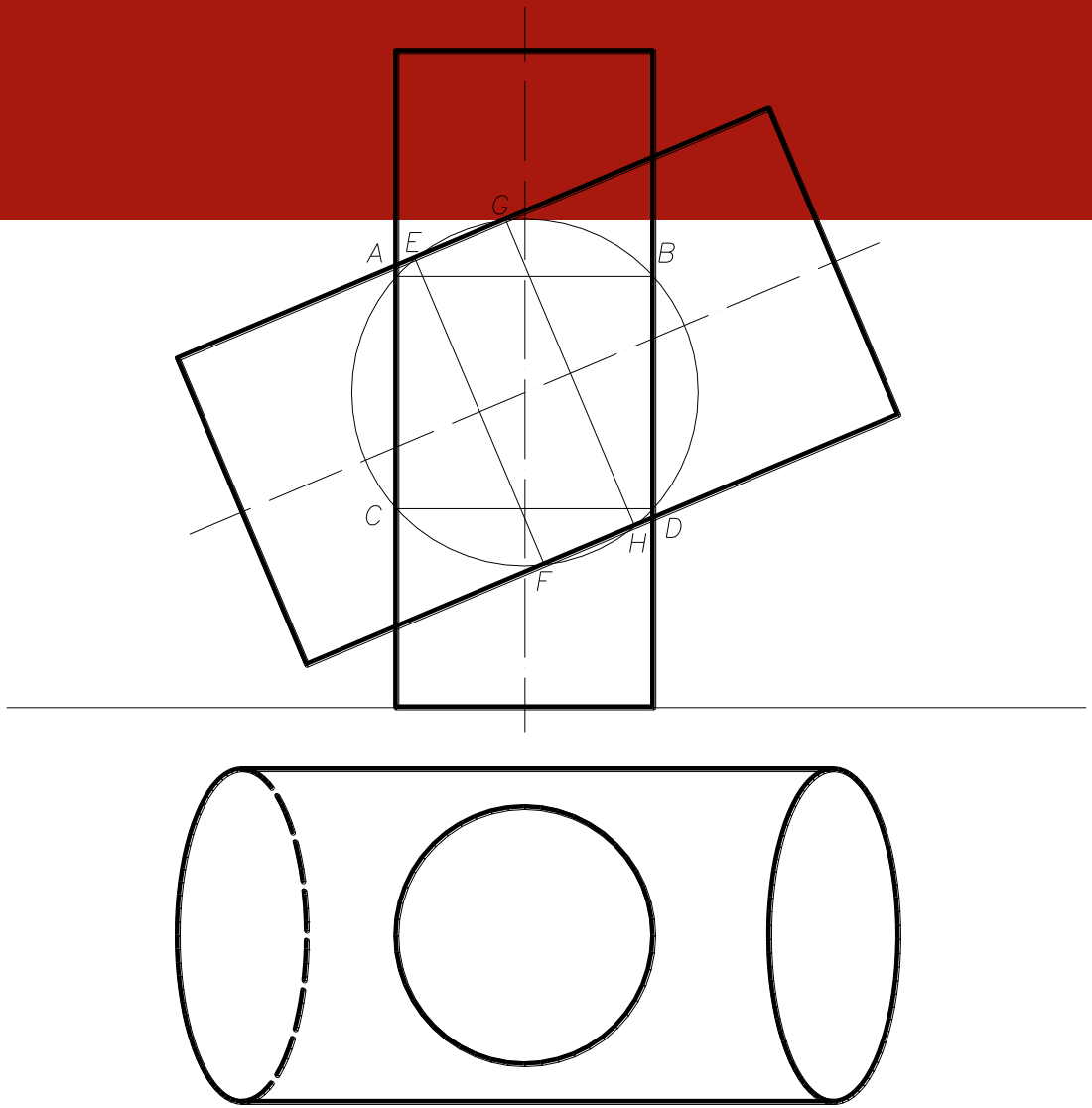
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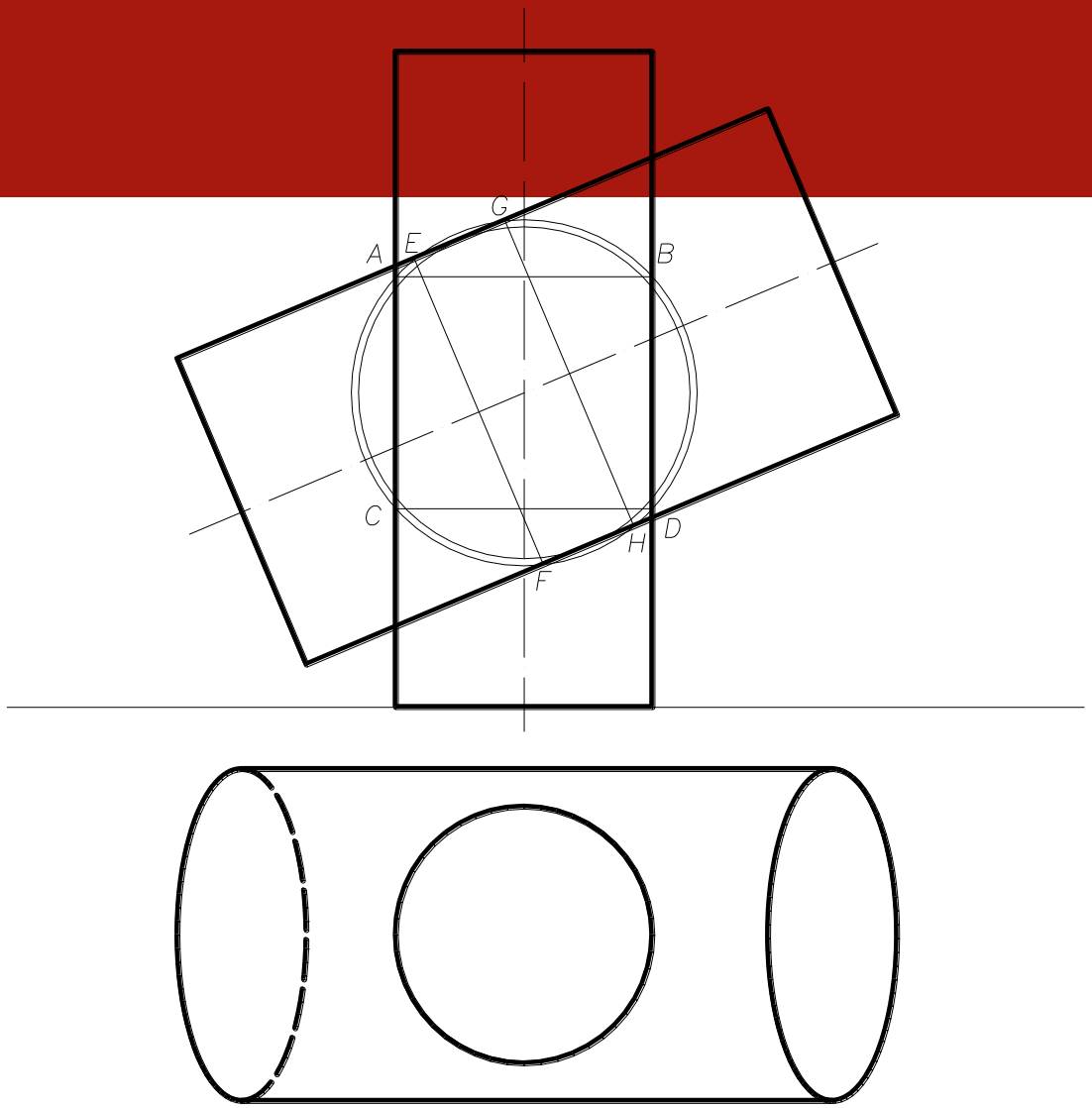
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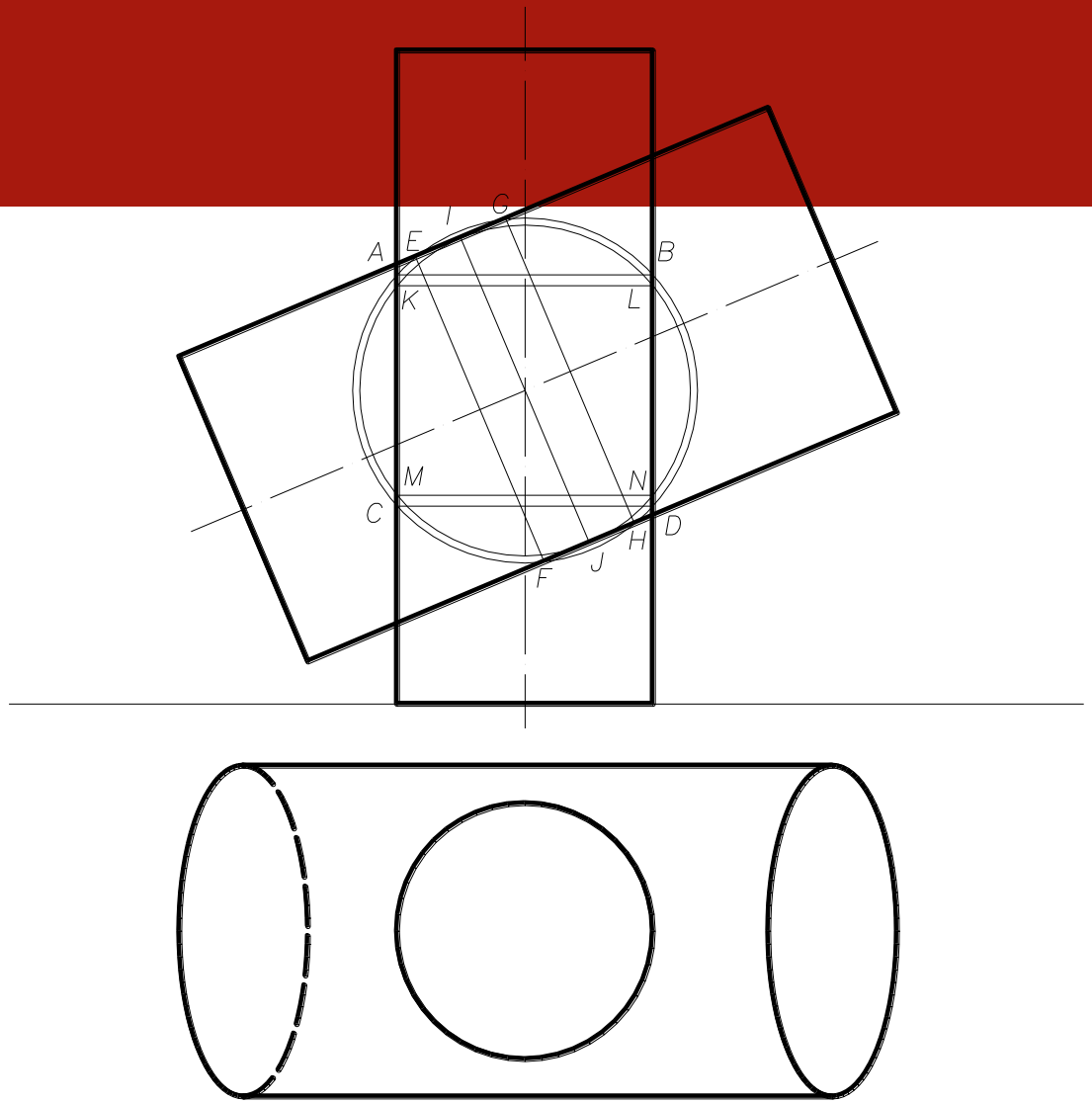
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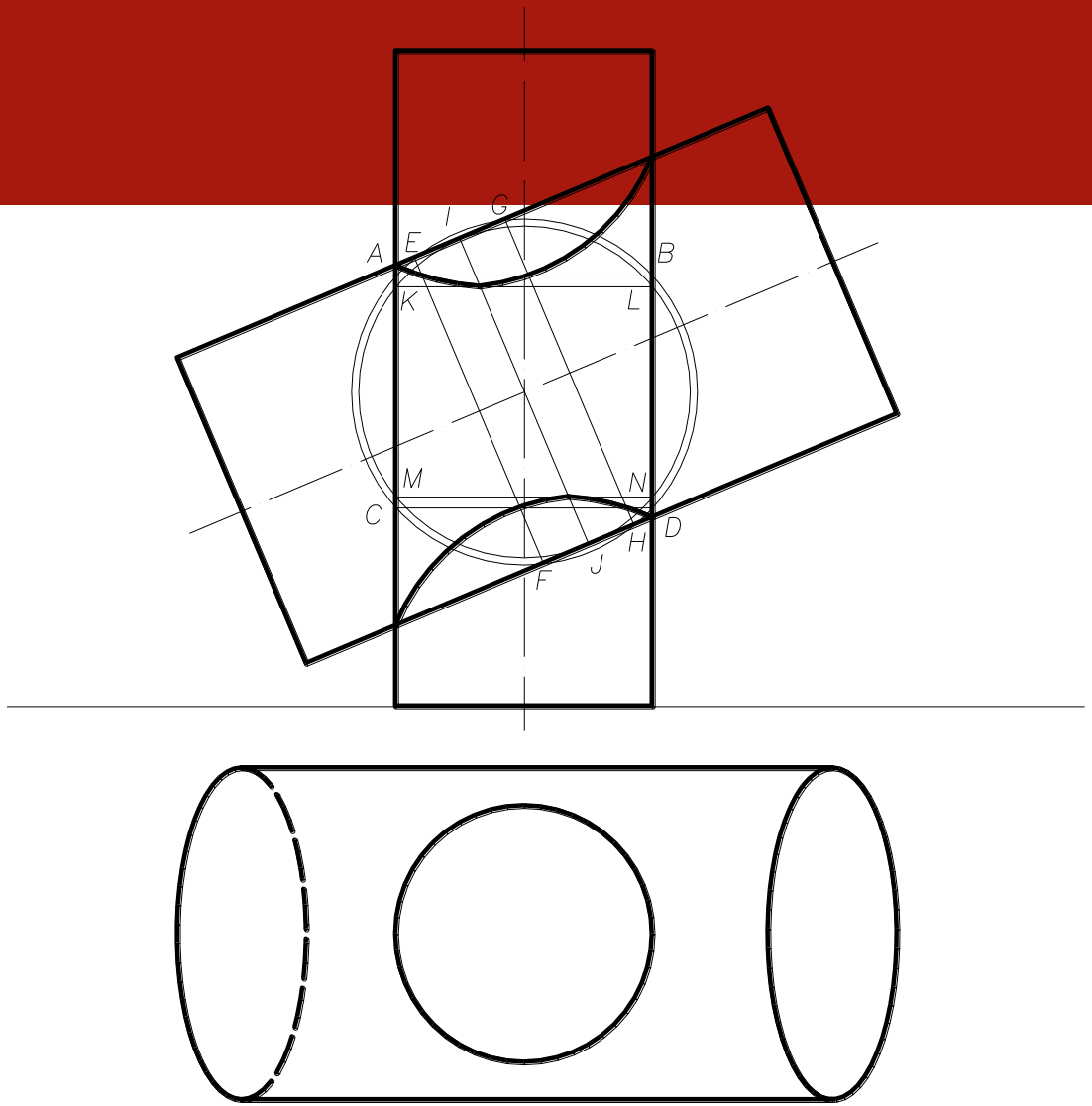
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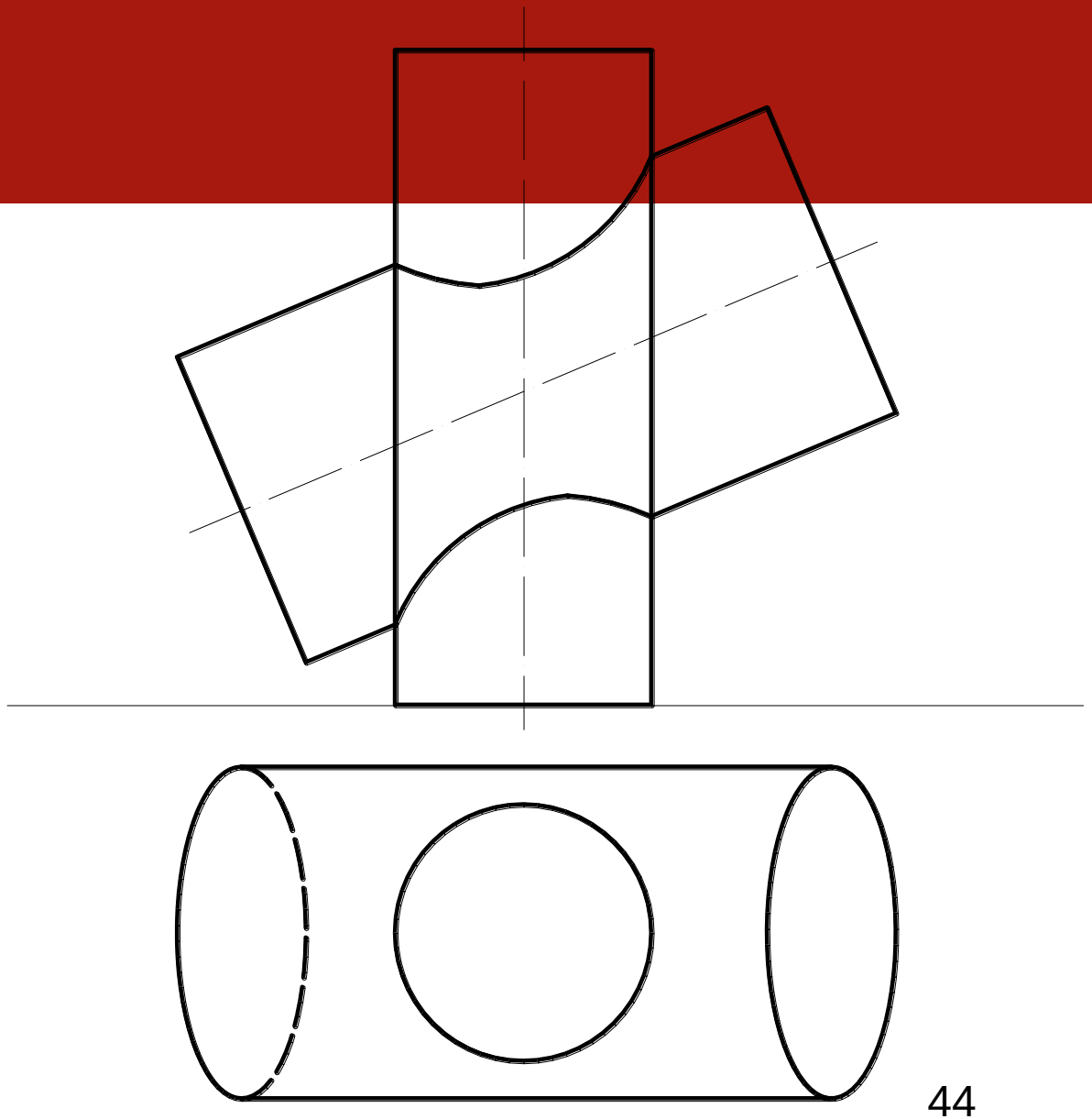
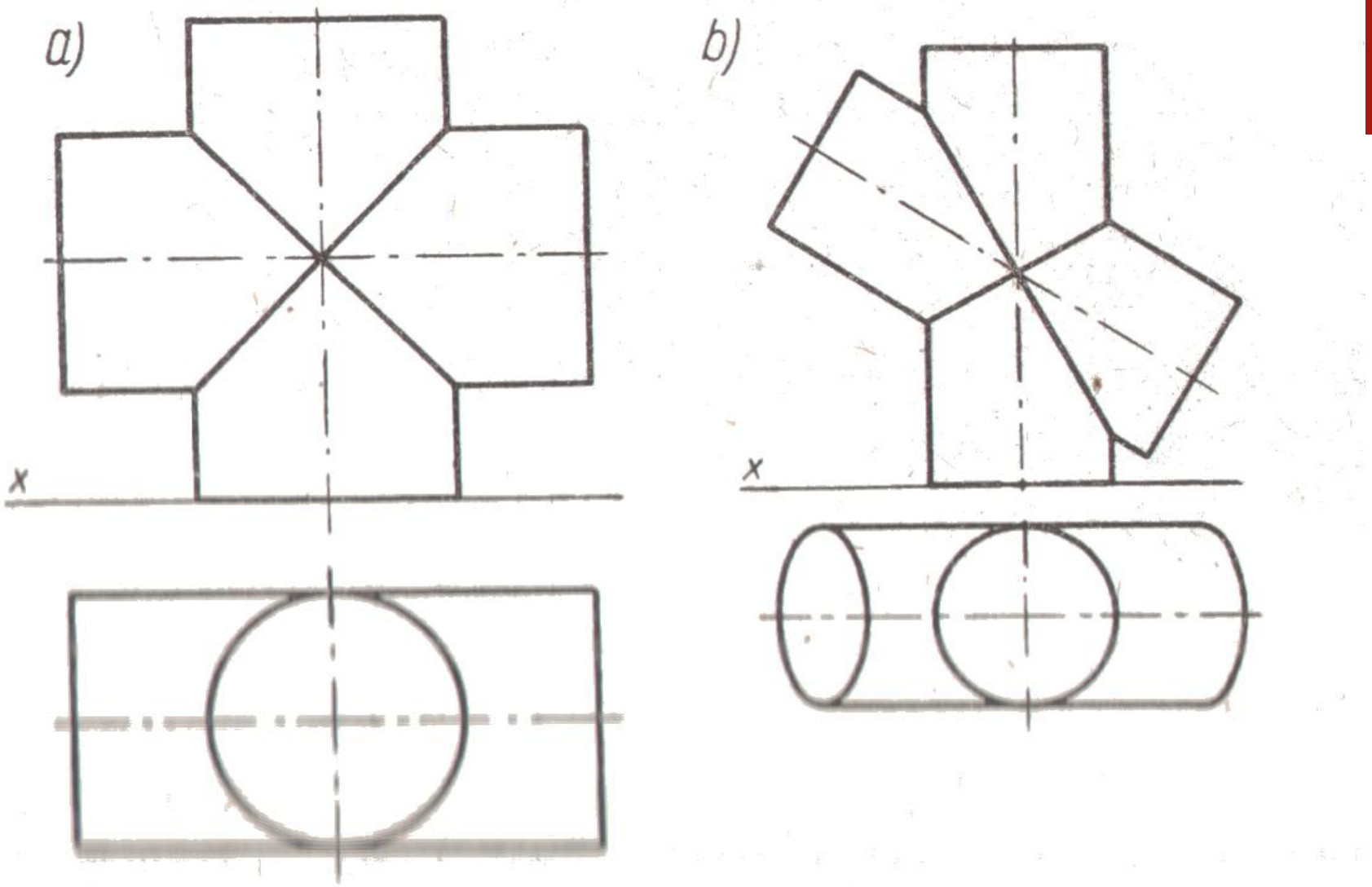
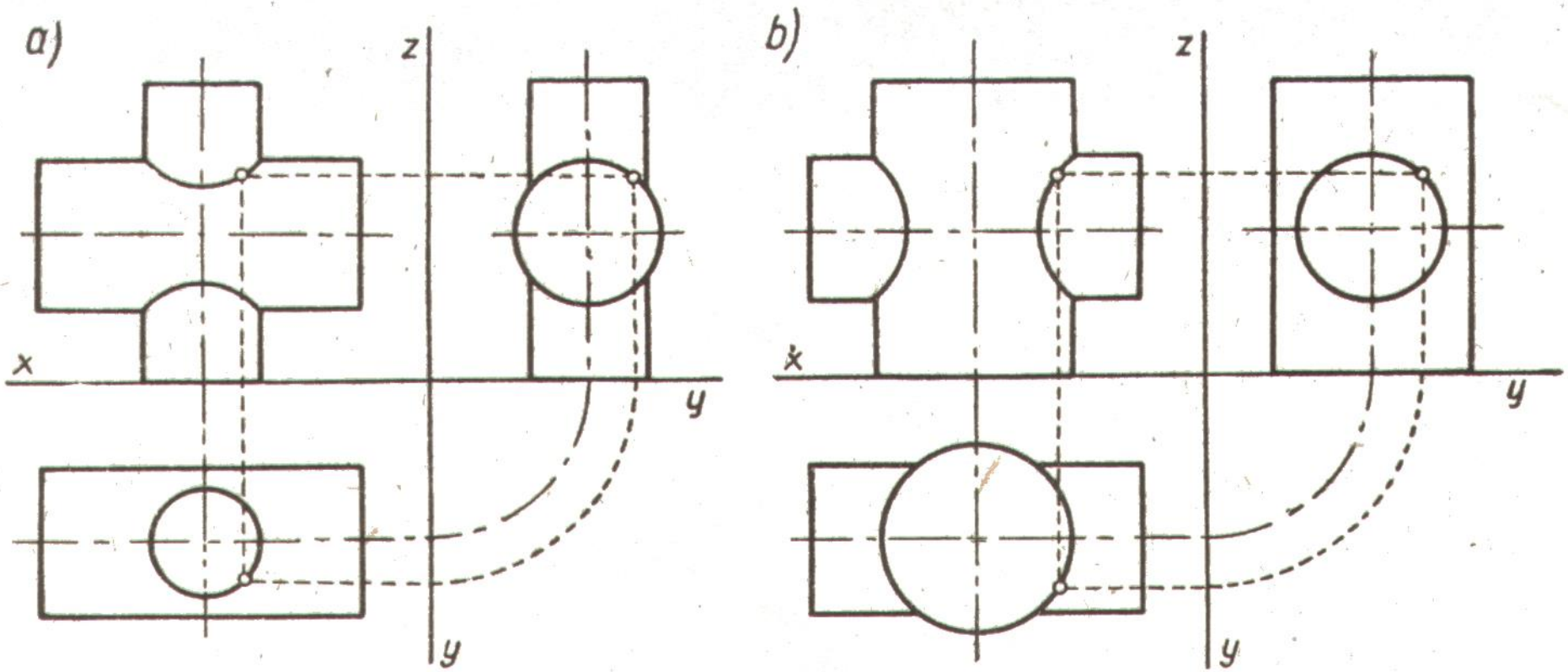



a)
x
b)
x


a)
z
x
y
y
b)
z
x
y
y