

Mantellinienverfahren

zur Konstruktion der Durchdringungskurve von zwei Zylindern

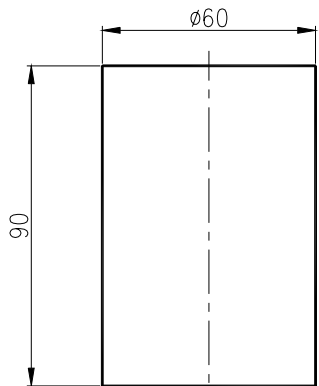
Vorgehensweise:

Der Umfang des kleinen Zylinders wird in gleiche Teile eingeteilt und die zugehörigen Mantellinien werden in Vorderansicht und Draufsicht eingezeichnet. Die Durchdringungskurve ergibt sich aus den Schnittpunkten der Mantellinien.

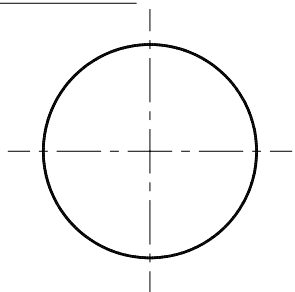
Beispiel:

Schiefwinklige Durchdringung zweier Zylinder mit versetzten Achsen

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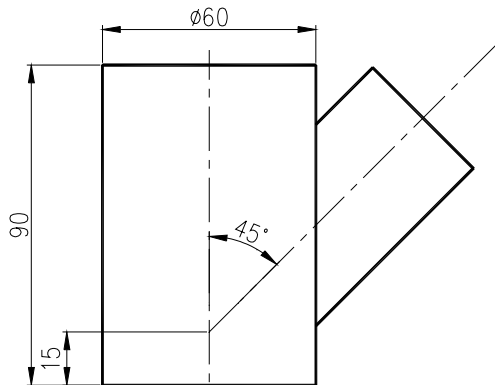
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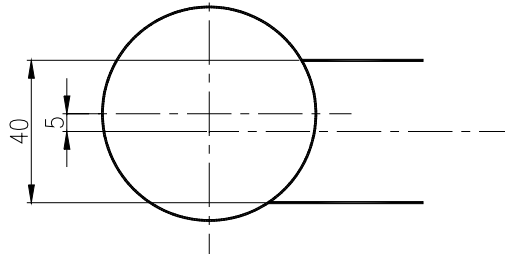
1. Schritt:

Zeichnen des Grundkörpers
in zwei Ansichten

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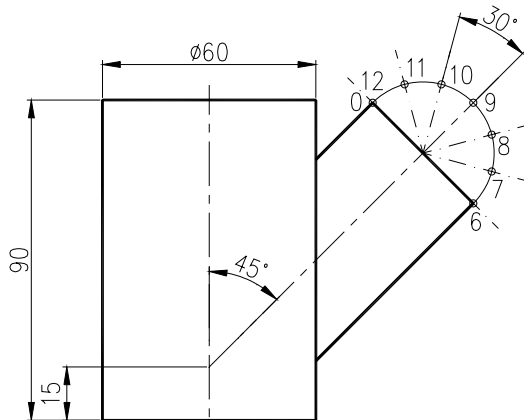
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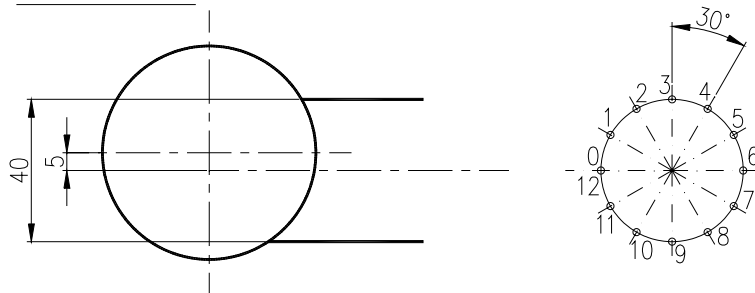
2. Schritt:

Zeichnen des durchdringenden Zylinders in Vorderansicht und Draufsicht (teilweise)

VORDERANSICHT



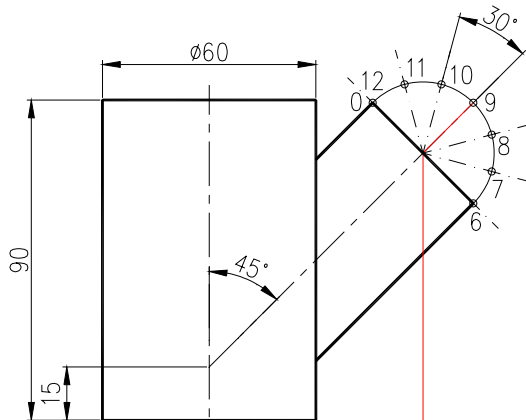
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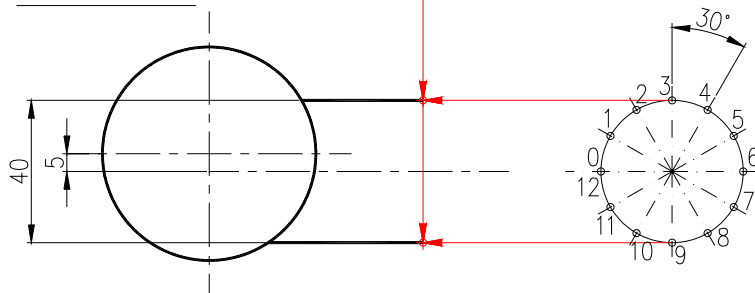
3. Schritt:

Zeichnen von Hilfskreisen zur Einteilung des Umfanges der Stirnfläche des kleinen Zylinders

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4. Schritt:

Einzeichnen der Mantellinien und Konstruktion der Projektion der Stirnfläche des kleinen Zylinders in der Draufsicht

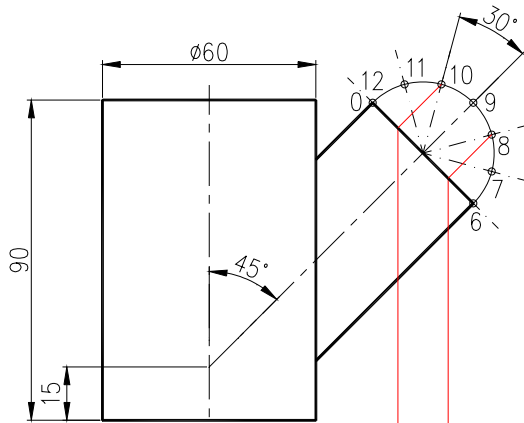


TU Chemnitz

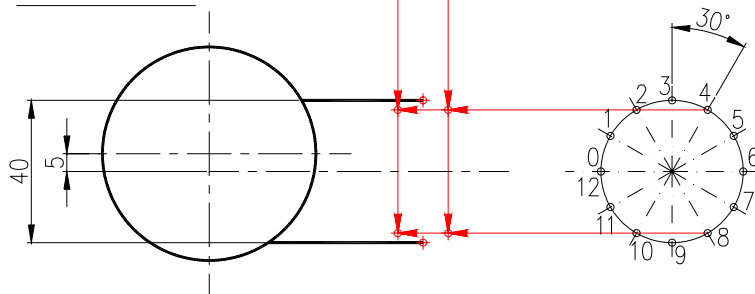
Projektionszeichen von Durchdringungen und Abwicklungen



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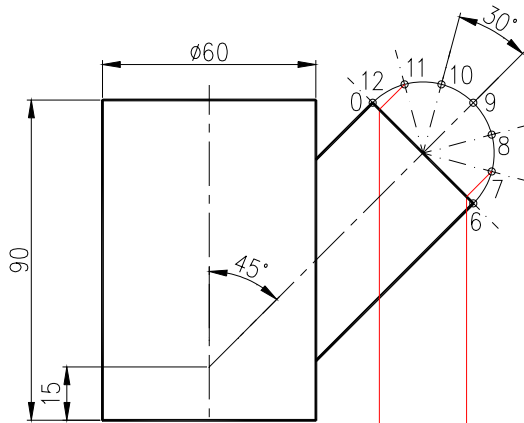


TU Chemnitz

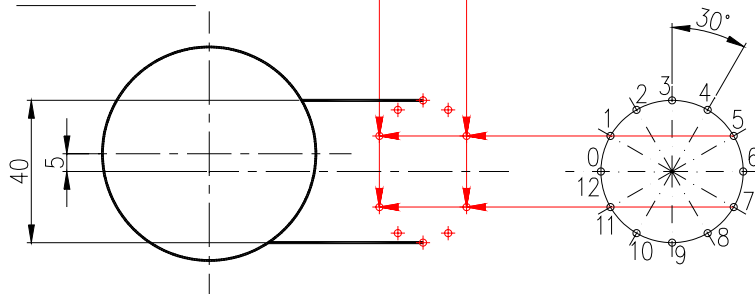
Projektionszeichen von Durchdringungen und Abwicklungen



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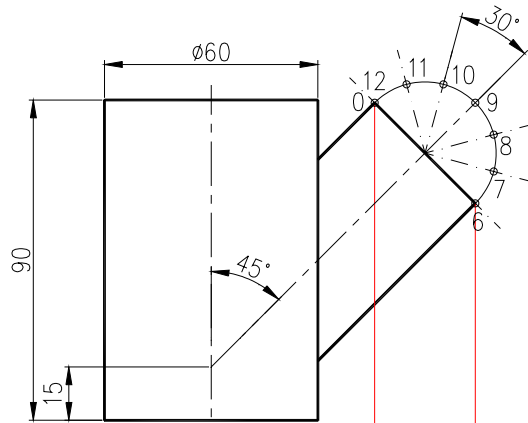


TU Chemnitz

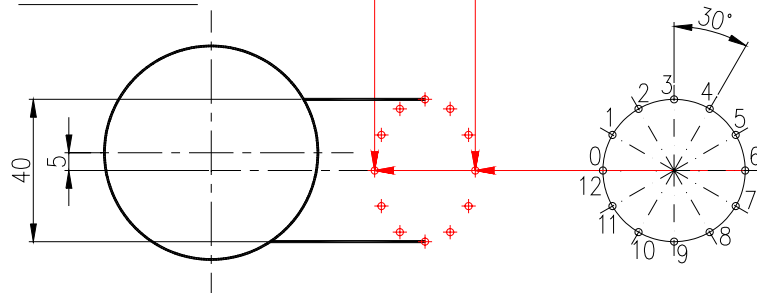
Projektionszeichen von Durchdringungen und Abwicklungen



VORDERANSICHT



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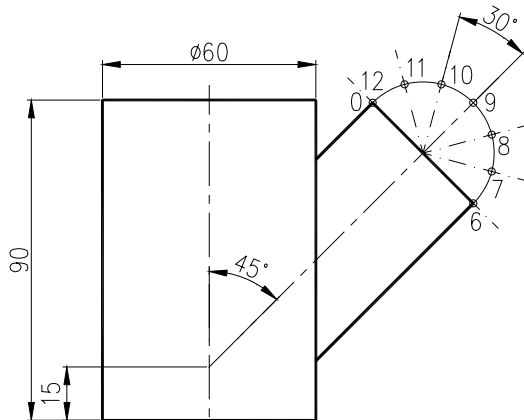


TU Chemnitz

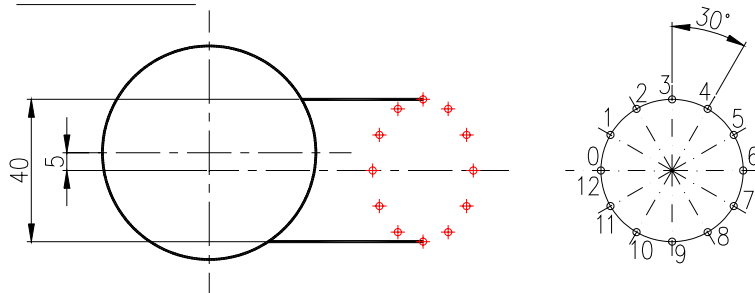
Projektionszeichen von Durchdringungen und Abwicklungen



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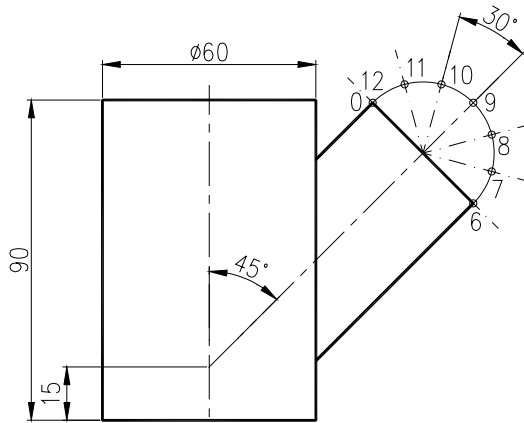


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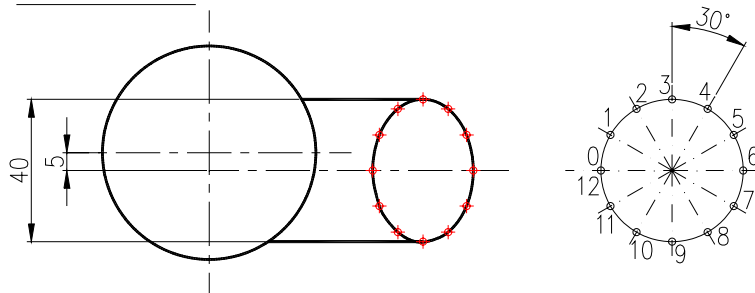
Projektionszeichen von Durchdringungen und Abwicklungen



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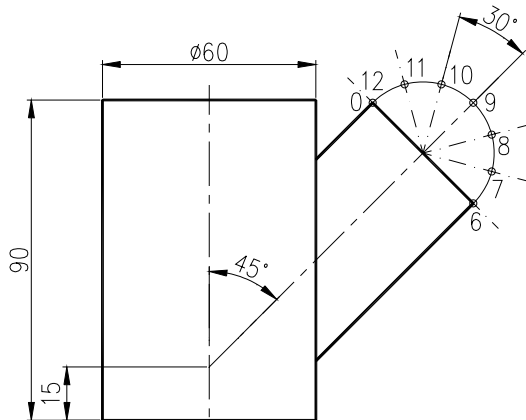


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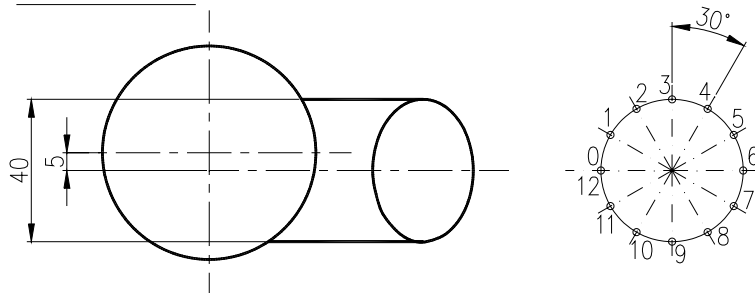
Projektionszeichen von Durchdringungen und Abwicklungen



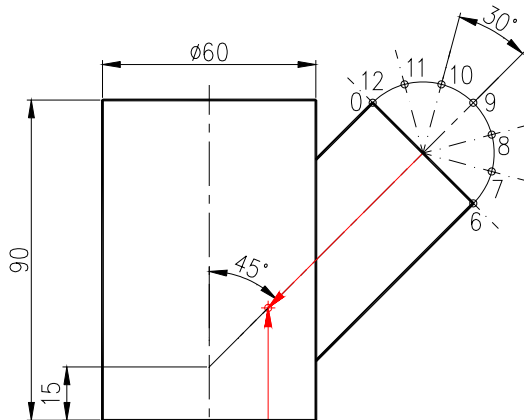
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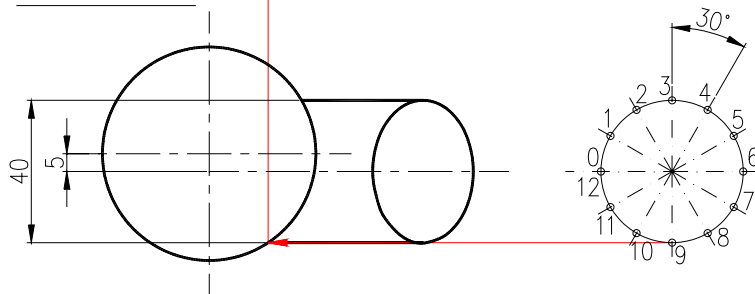
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5. Schritt:

Konstruktion der Projektion der Durchdringungskurve in der Vorderansicht für die vordere (sichtbare) Körperkontur

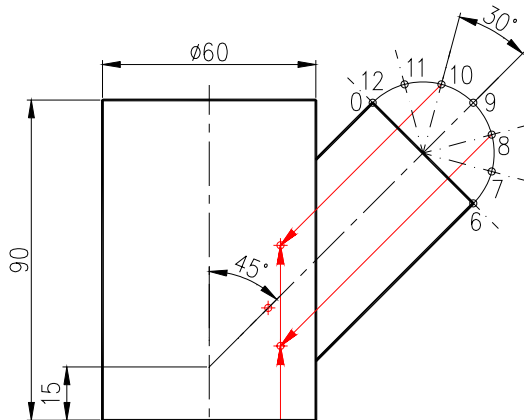


TU Chemnitz

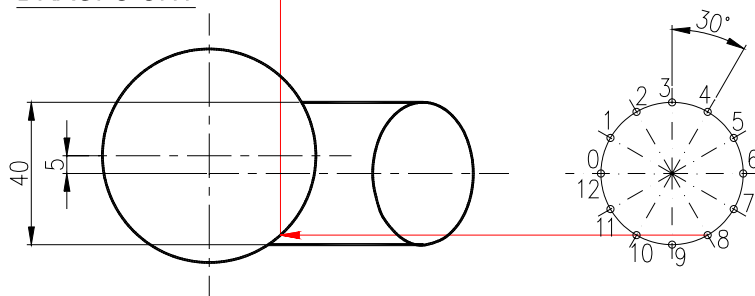
Projektionszeichen von Durchdringungen und Abwicklungen



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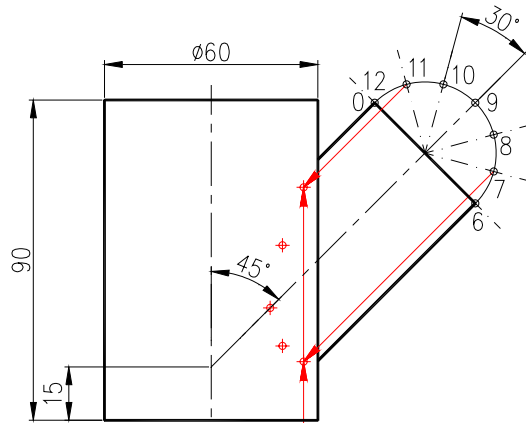


TU Chemnitz

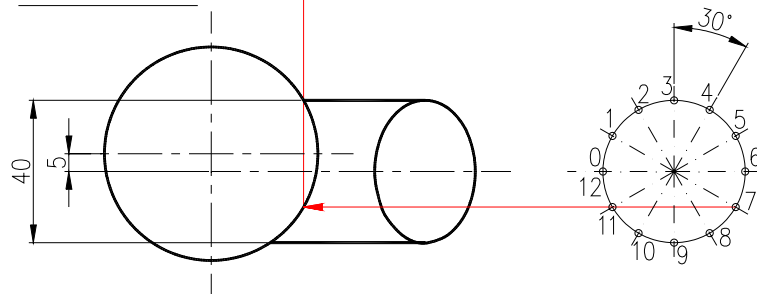
Projektionszeichen von Durchdringungen und Abwicklungen



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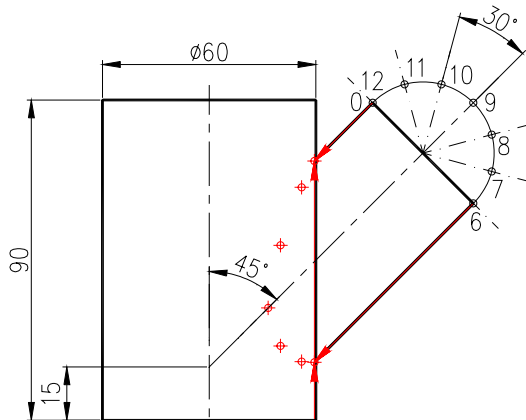


TU Chemnitz

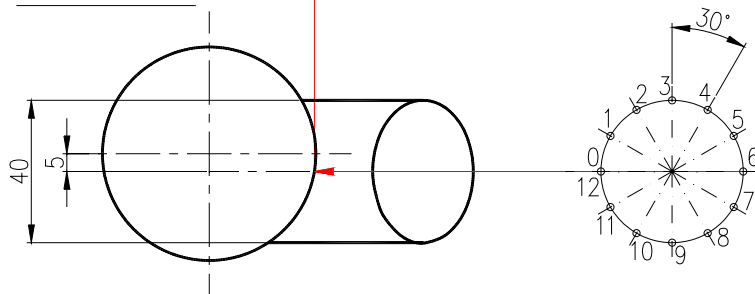
Projektionszeichen von Durchdringungen und Abwicklungen



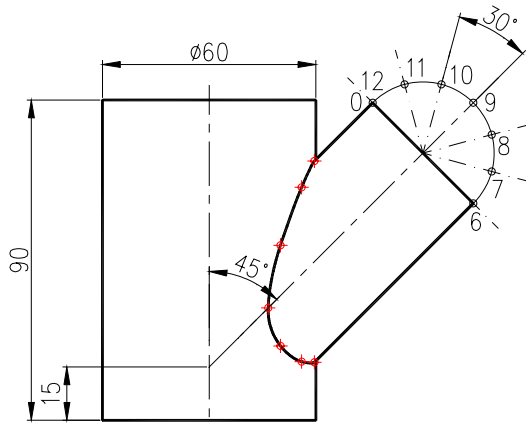
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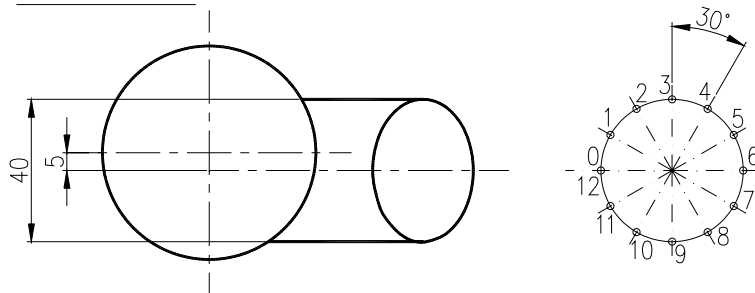
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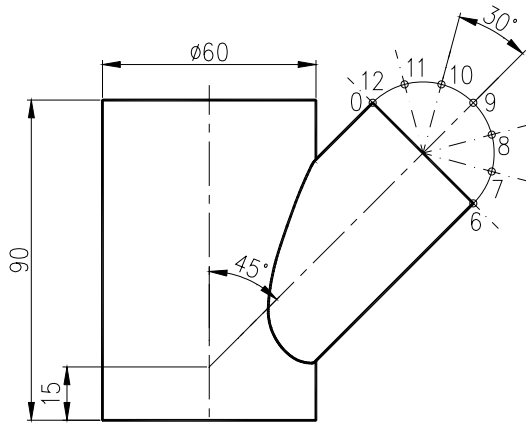
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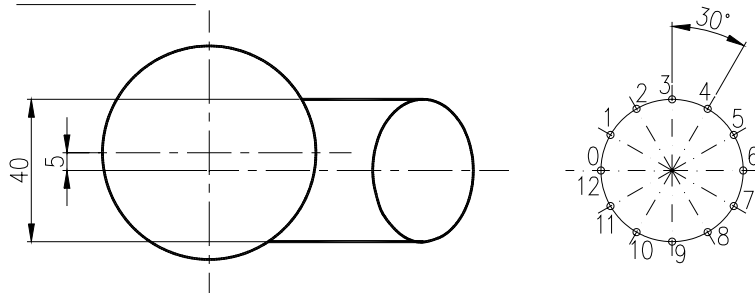
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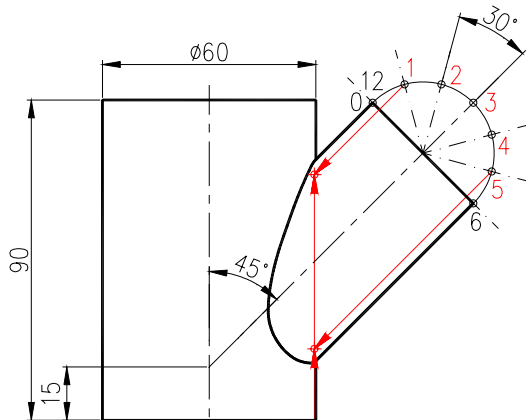
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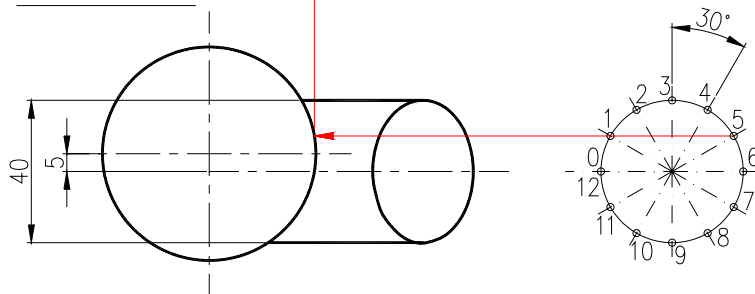
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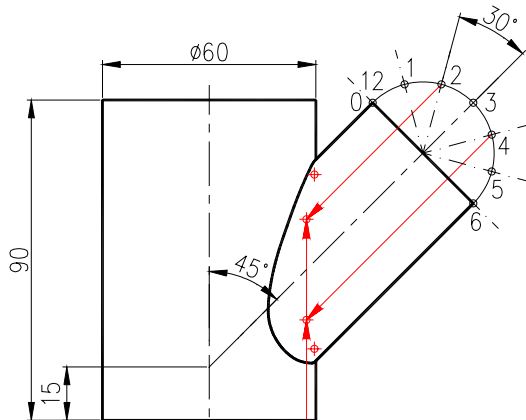
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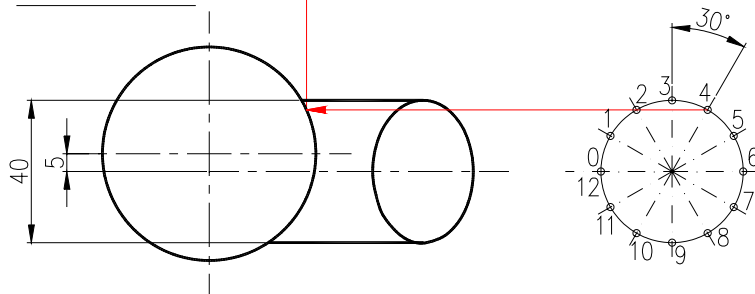
6. Schritt:

Konstruktion der Projektion der Durchdringungskurve in der Vorderansicht für die hintere (unsichtbare) Körperkontur

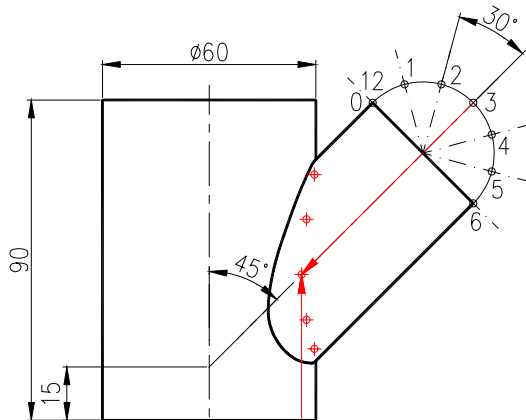
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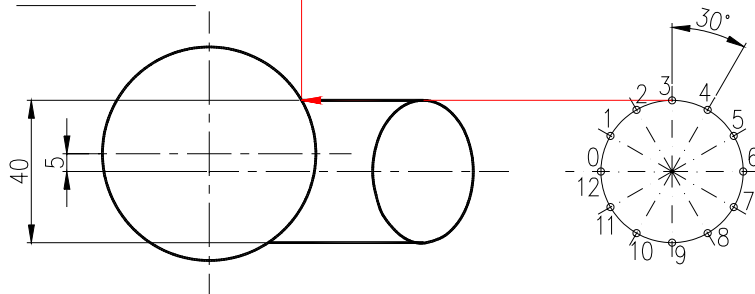
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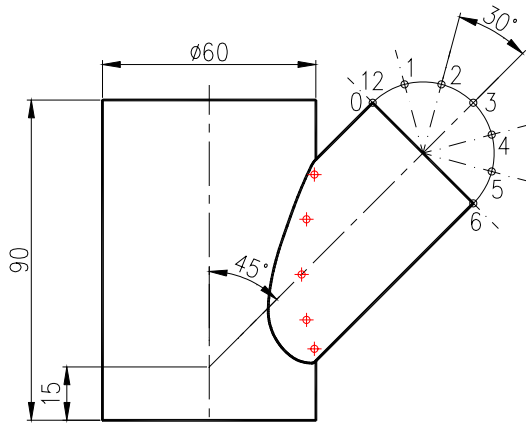
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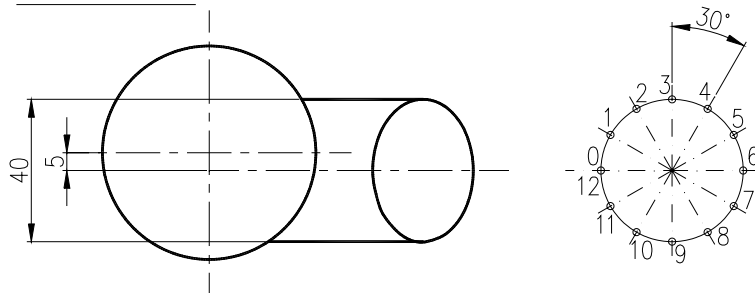
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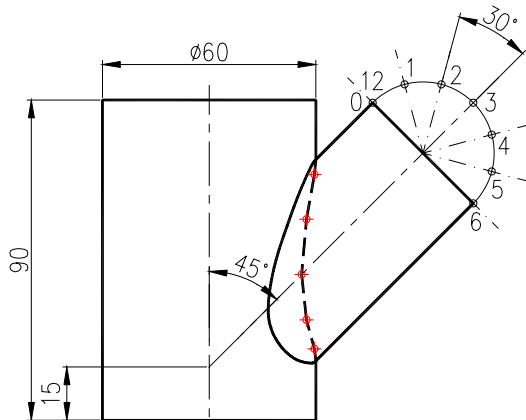
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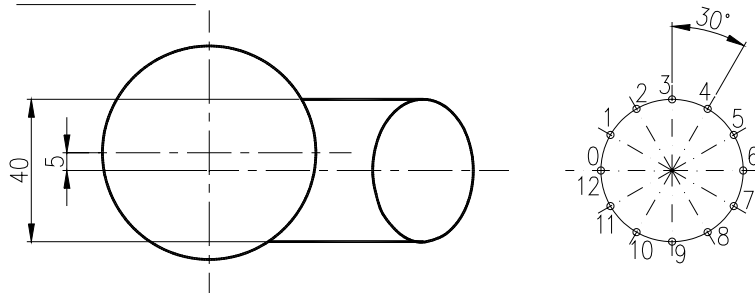
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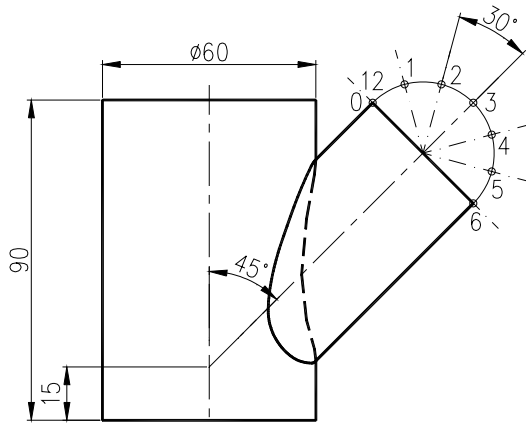


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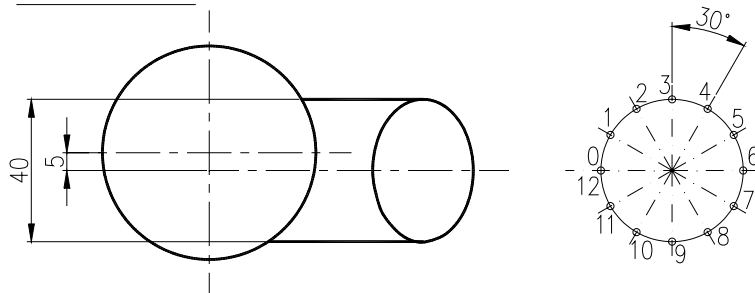
Projektionszeichen von Durchdringungen und Abwicklungen



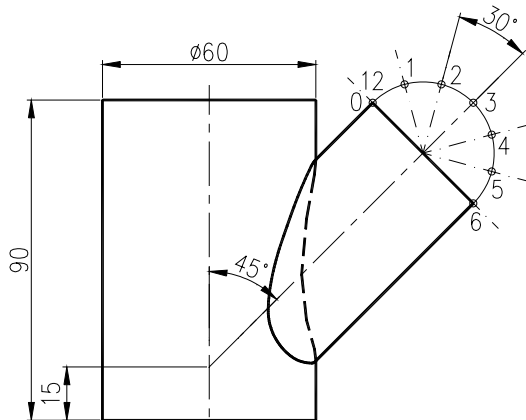
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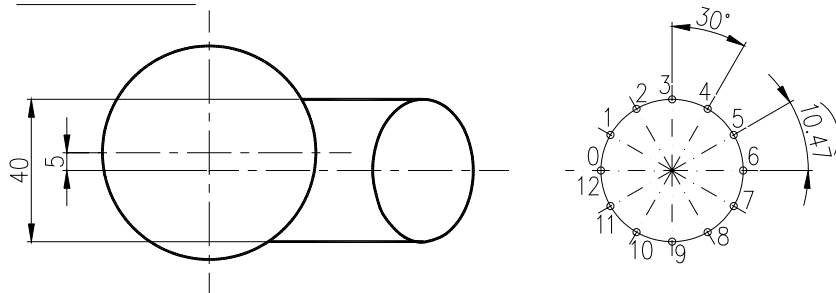
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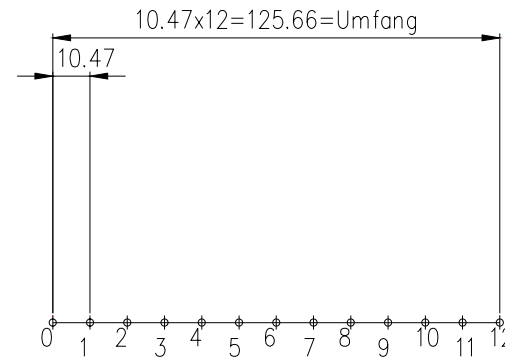


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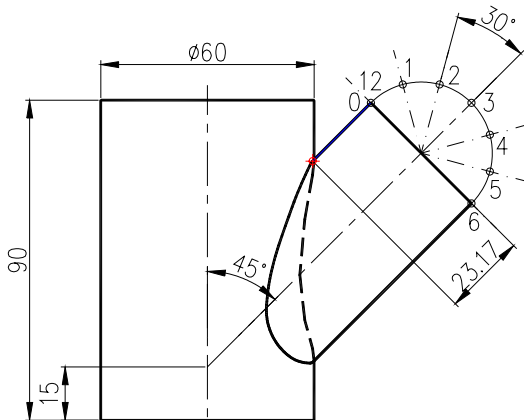


7. Schritt:

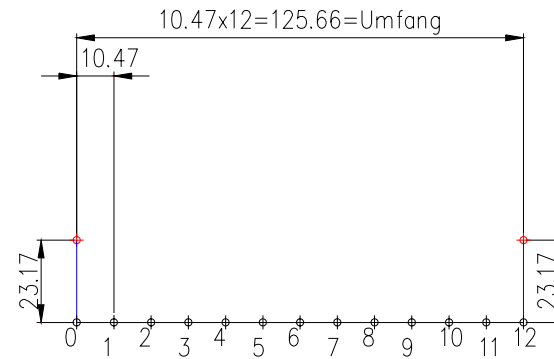
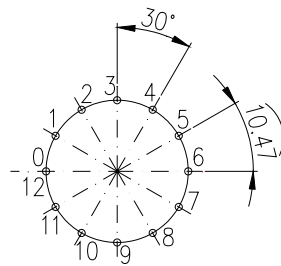
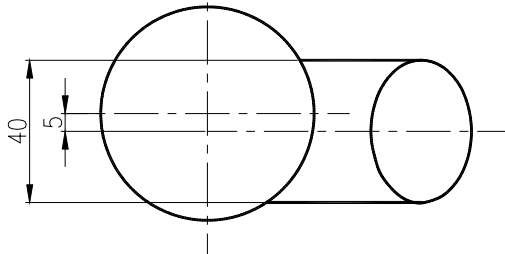
Konstruktion der Abwicklung des kleinen Zylinders.
Abwicklung des kleinen Zylinders in die Ebene und einzeichnen der zugehörigen Mantellinien. Das Übertragen der Mantellinienlängen ergibt die Kontur der Mantelfläche.



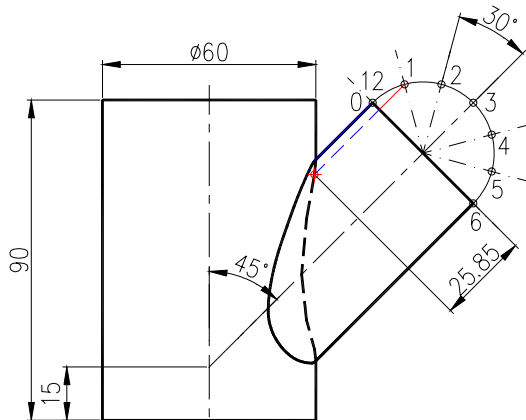
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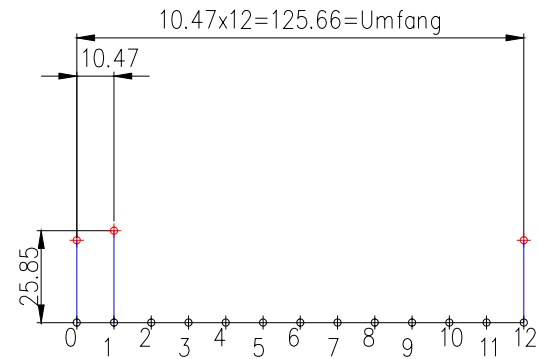
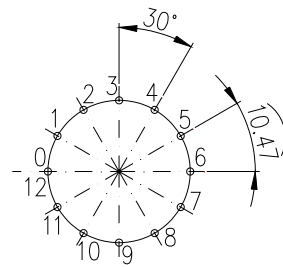
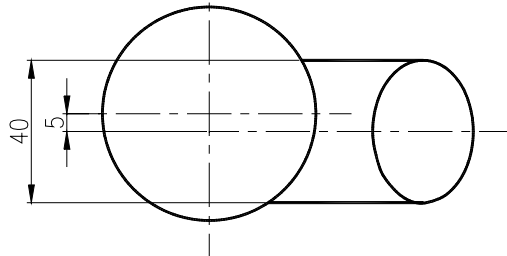
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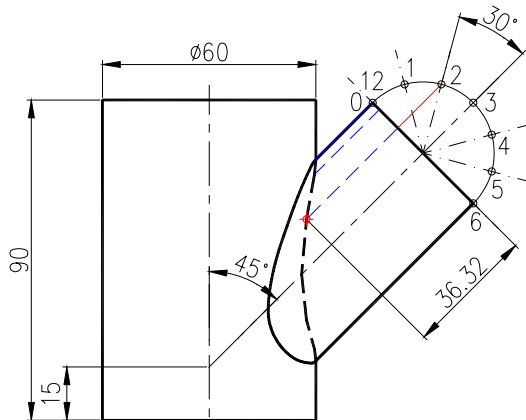
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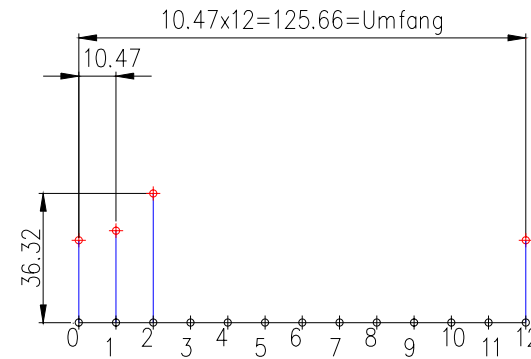
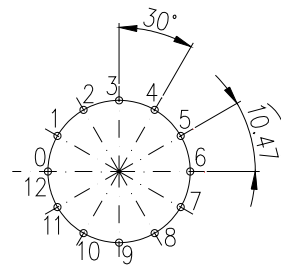
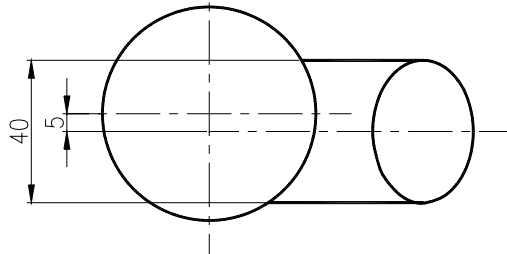
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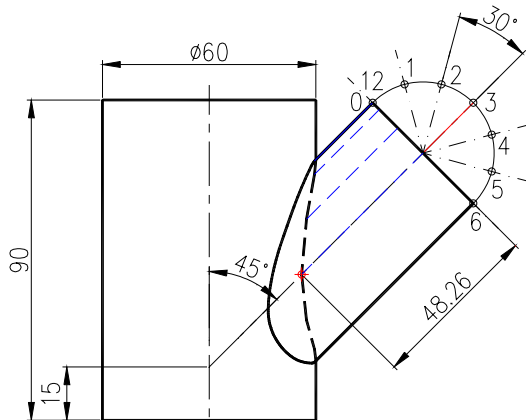
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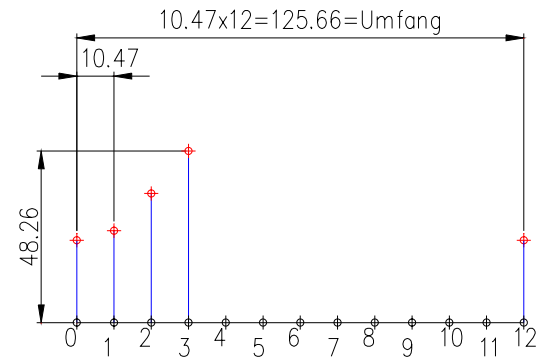
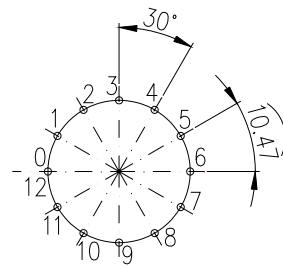
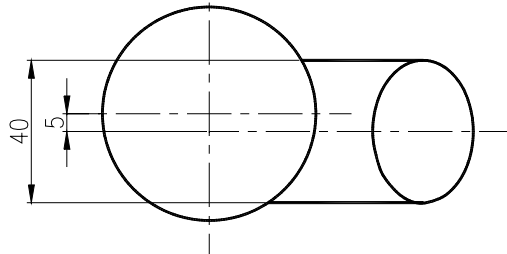
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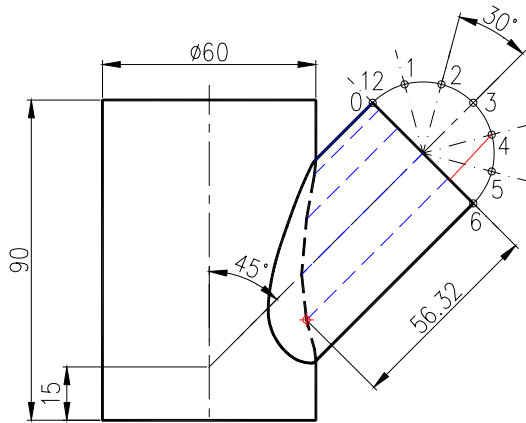
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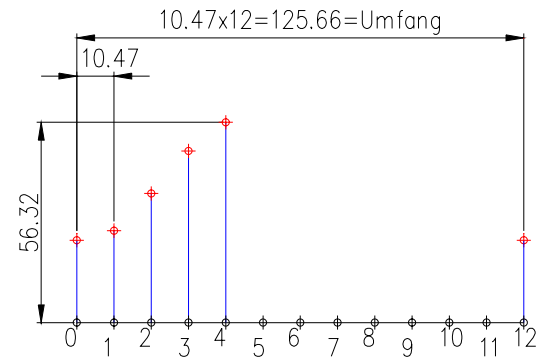
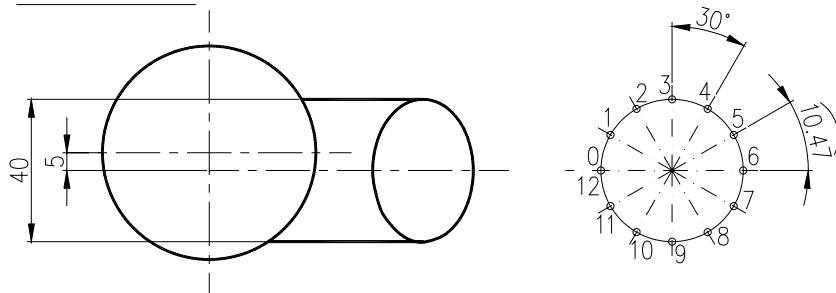
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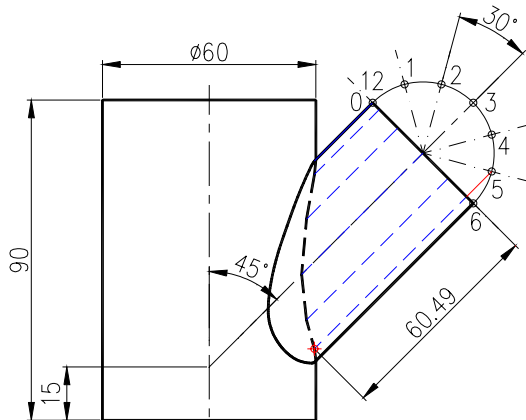
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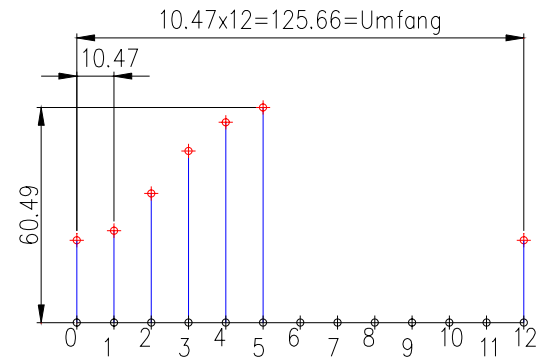
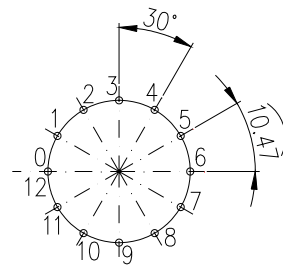
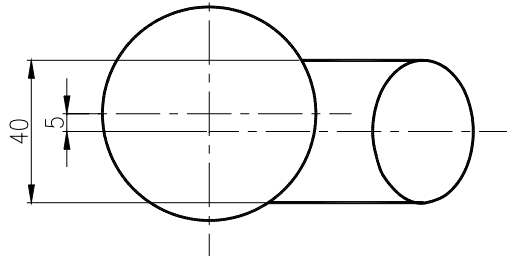
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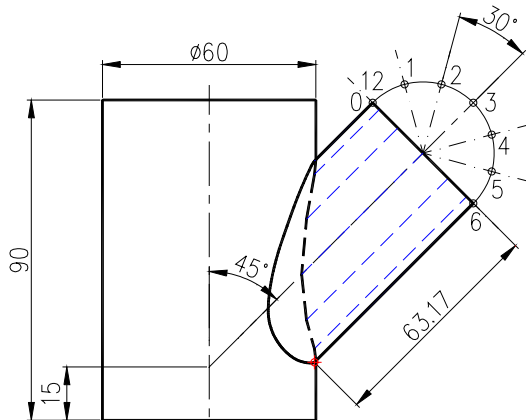
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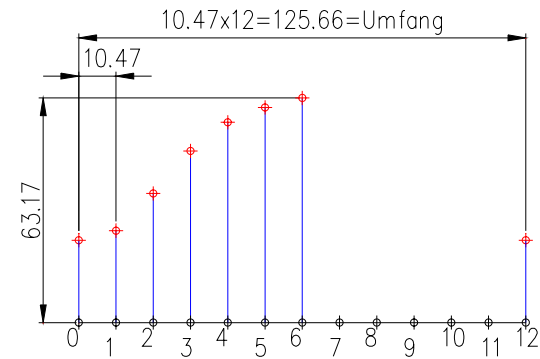
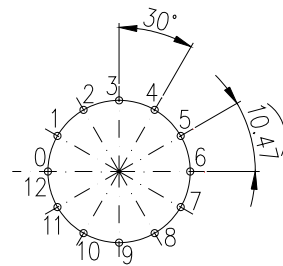
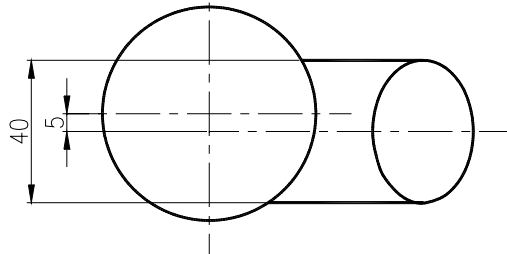
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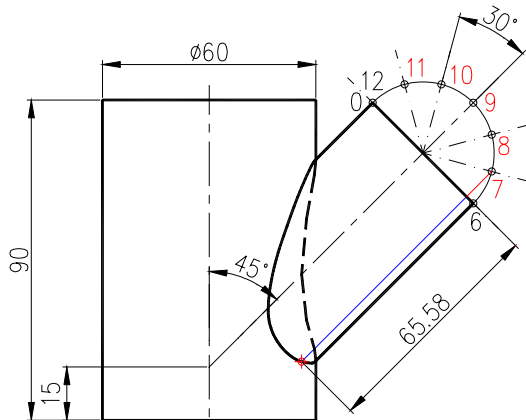
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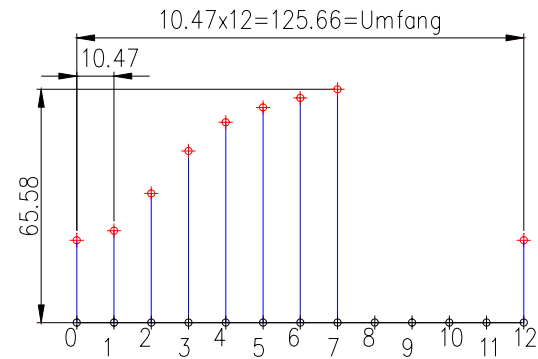
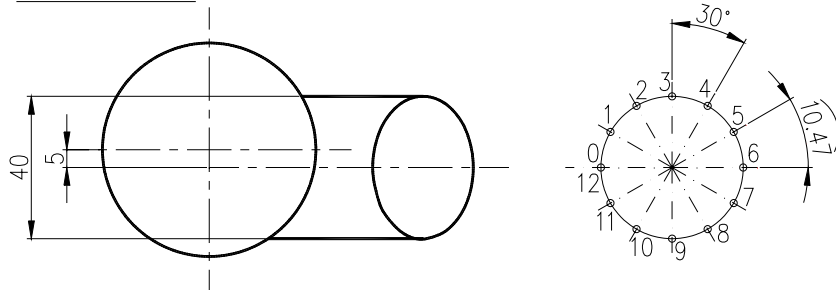
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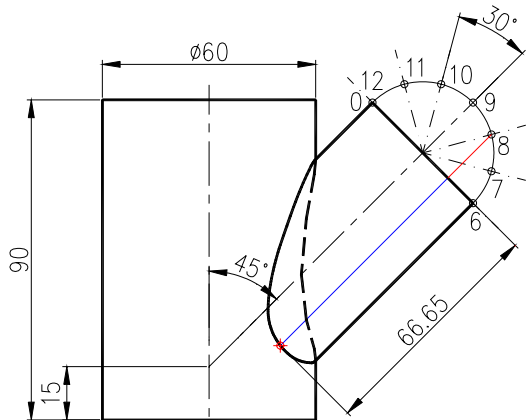
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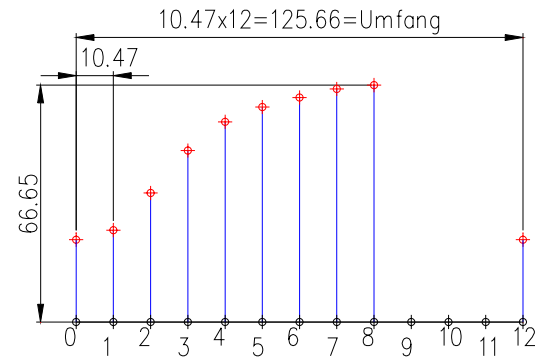
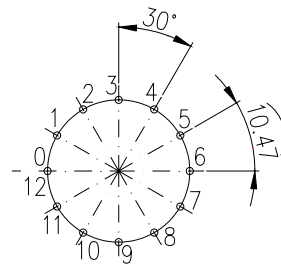
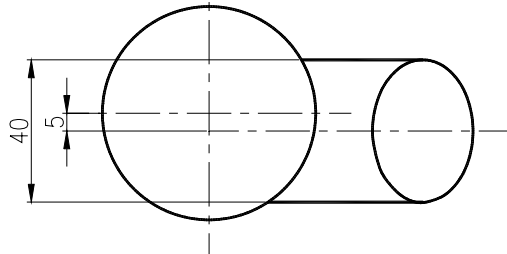
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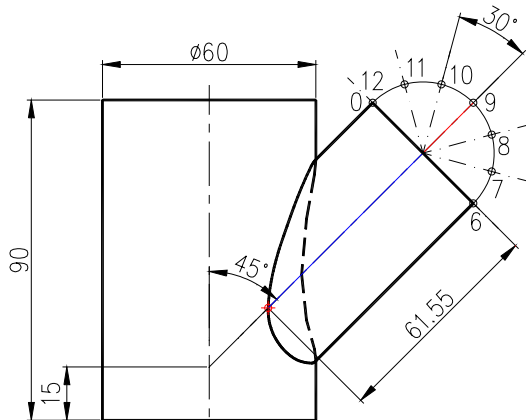
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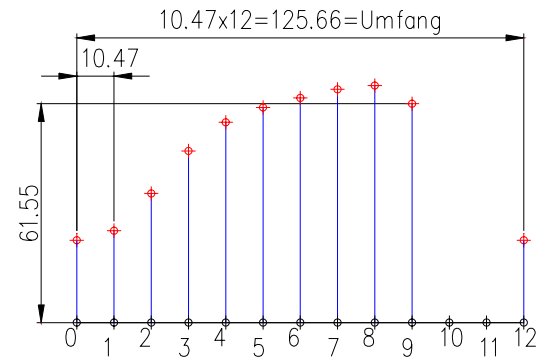
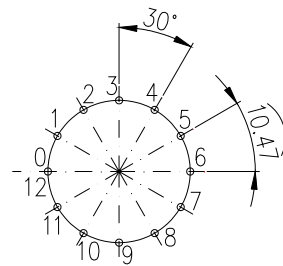
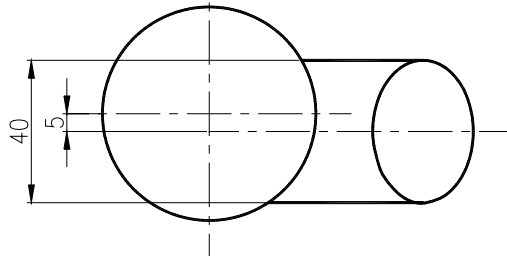
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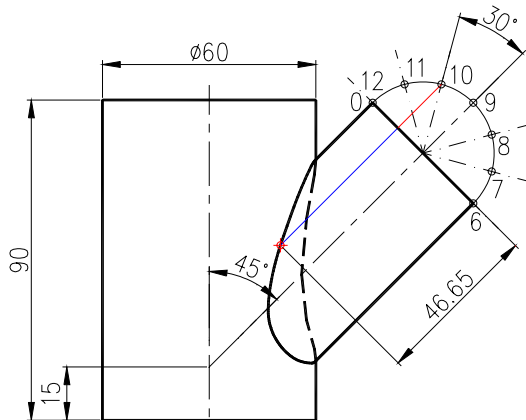
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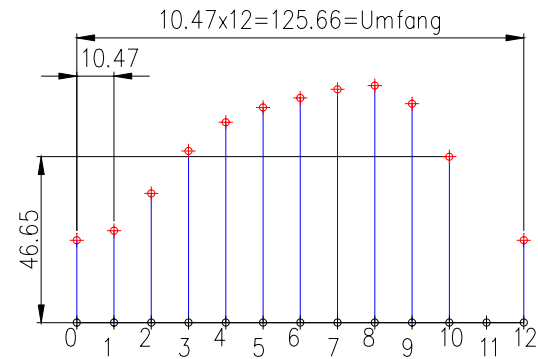
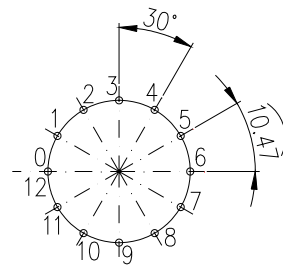
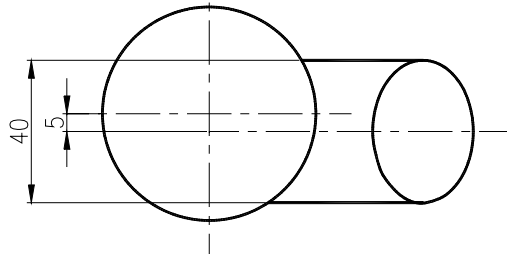
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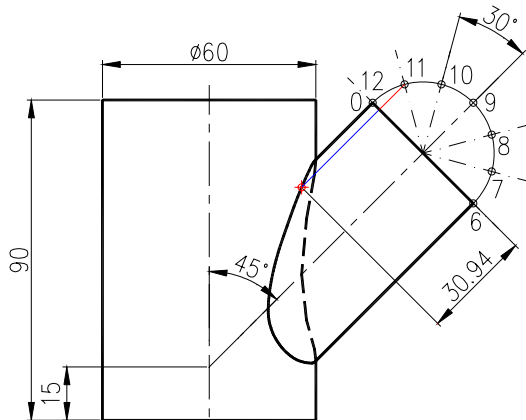
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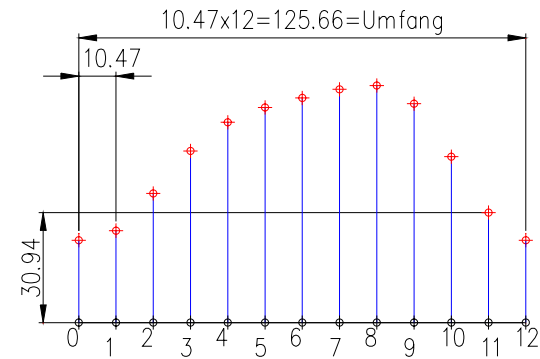
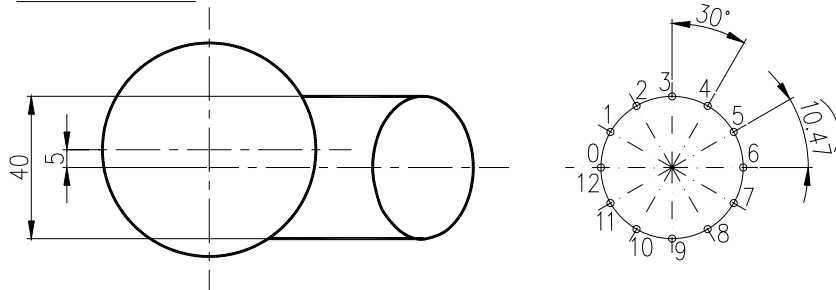
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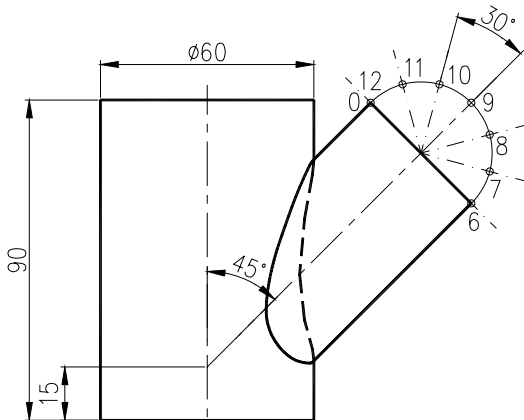
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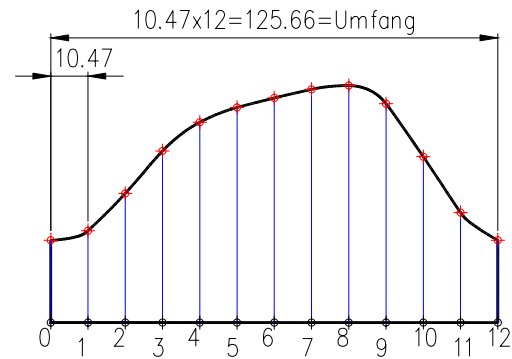
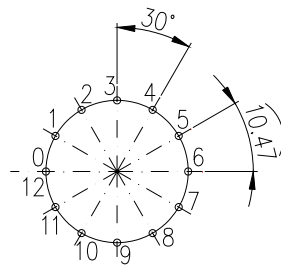
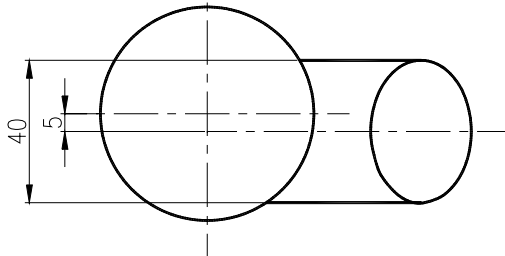
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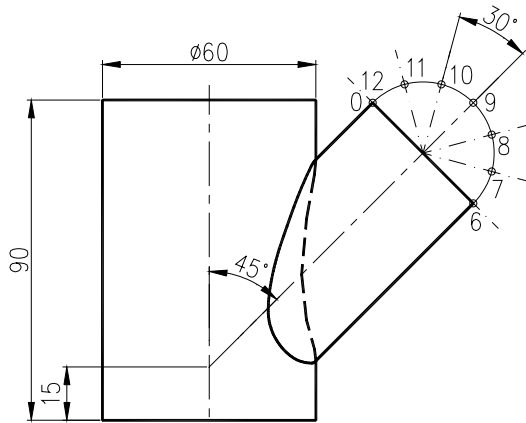


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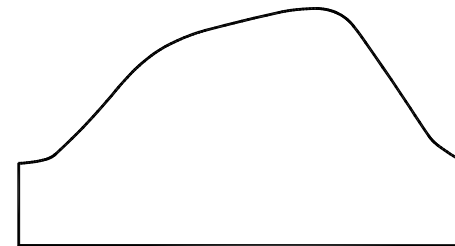
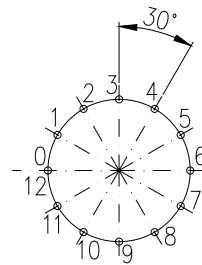
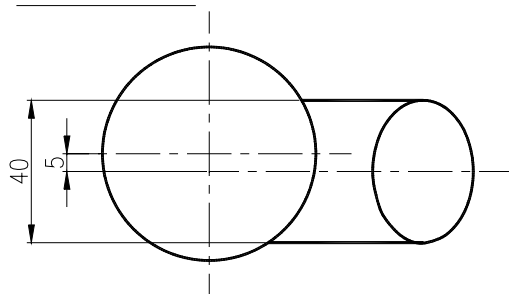
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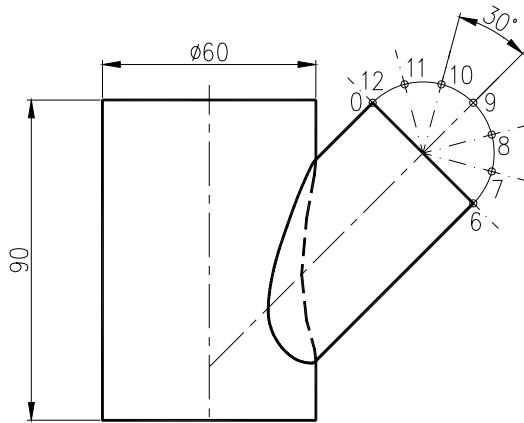


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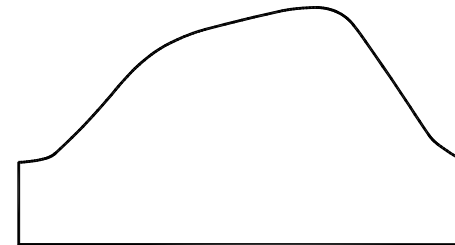
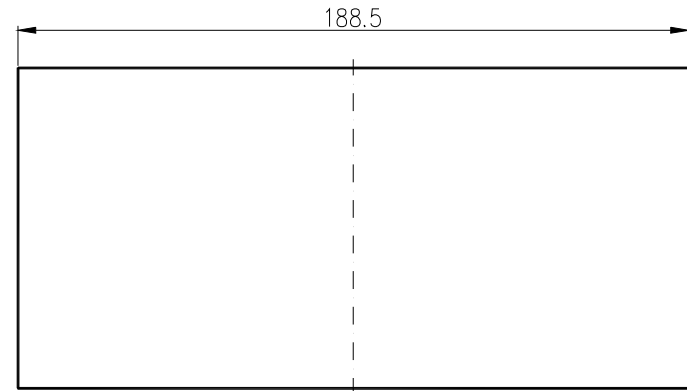
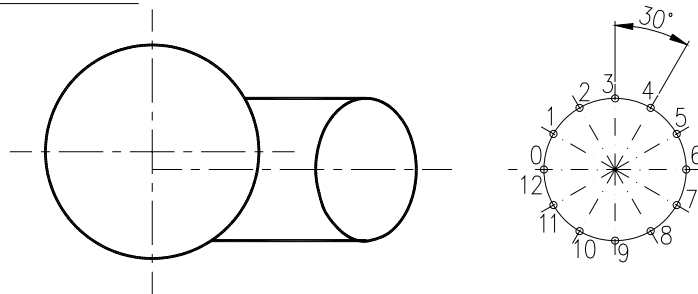


8. Schritt: Konstruktion der Abwicklung des großen Zylinders.
 Abwicklung des großen Zylinders in die Ebene und übertragen der Mantellinienlängen von der Vorderansicht entsprechend ihrer Umfangslage in die abgewickelte Zylinderfläche ergibt die Ausschnittkontur.

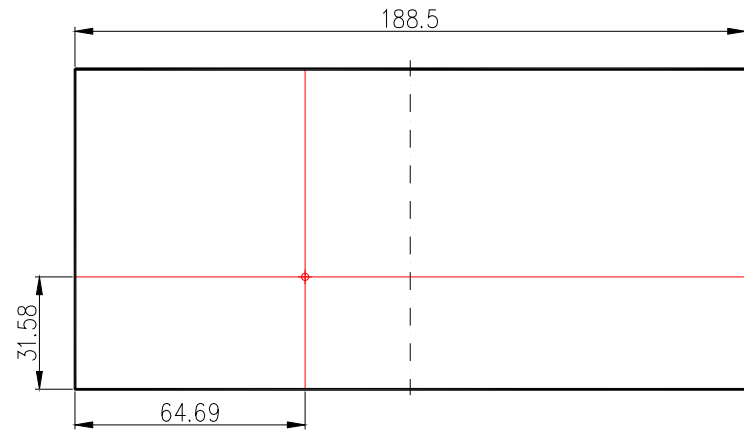
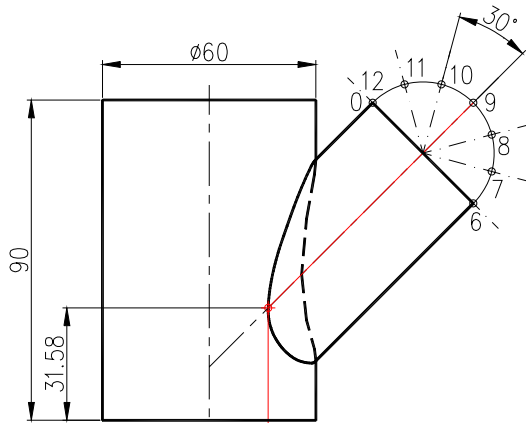
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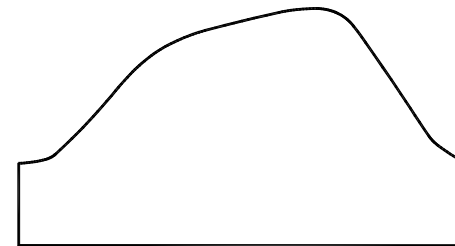
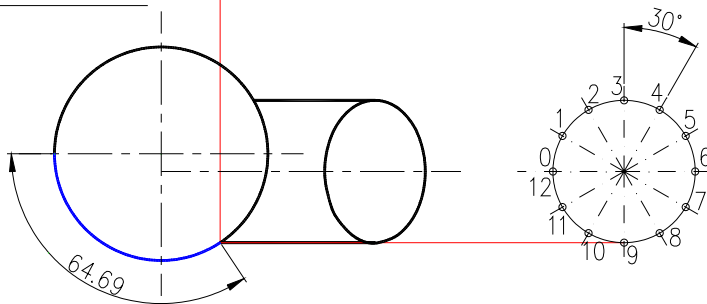
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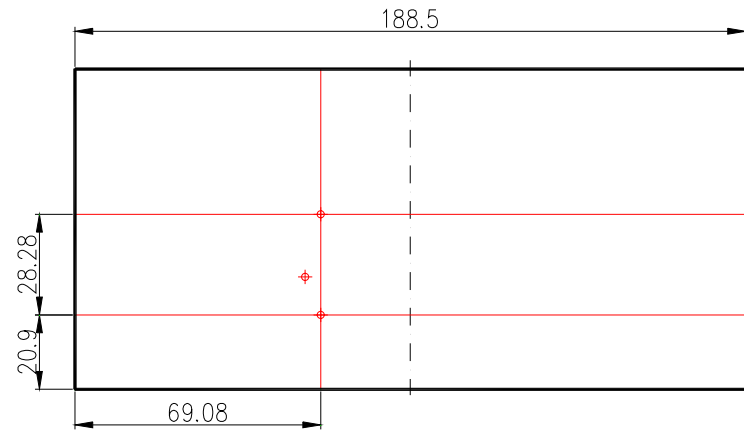
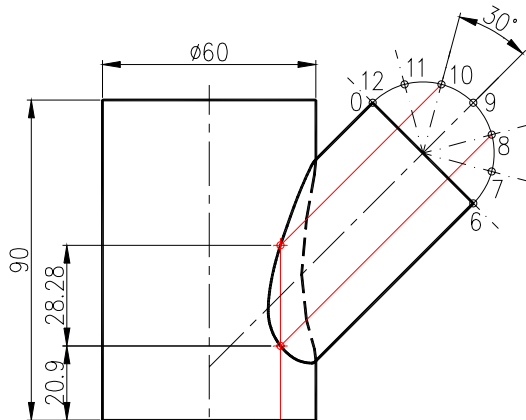
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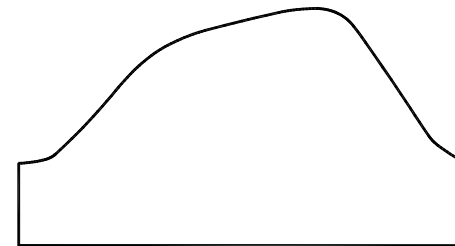
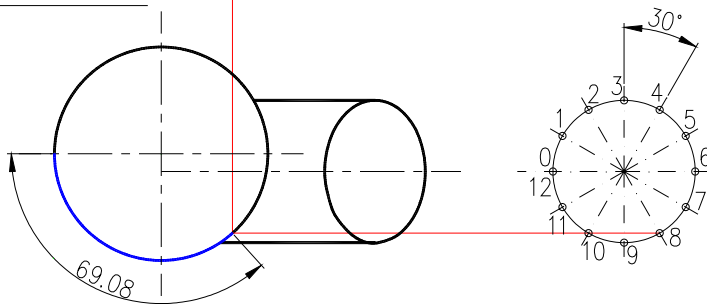
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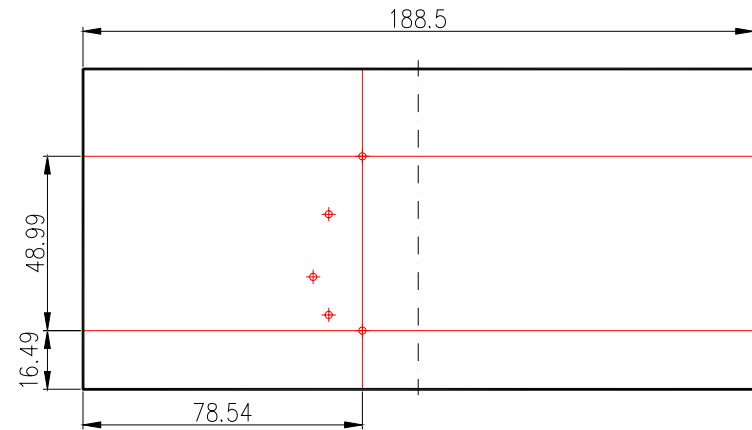
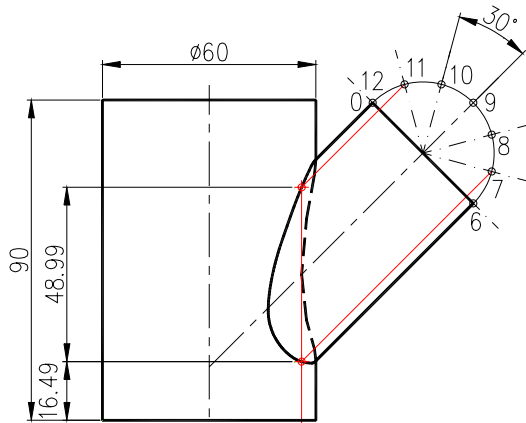


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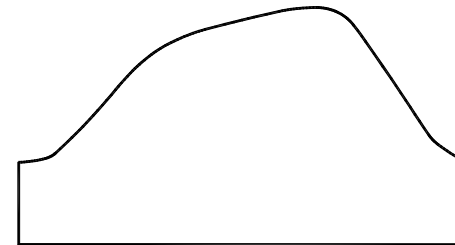
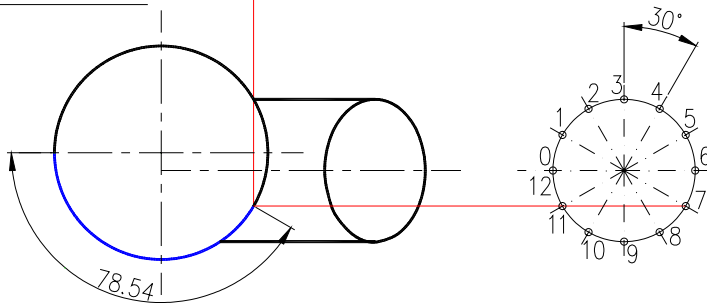
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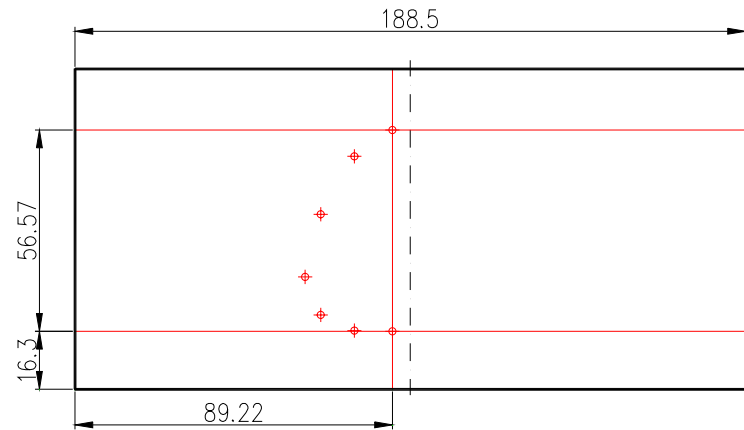
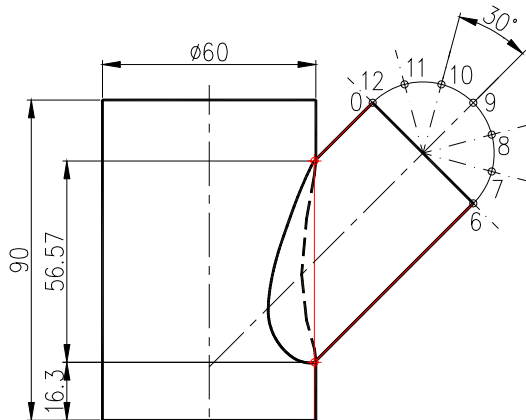
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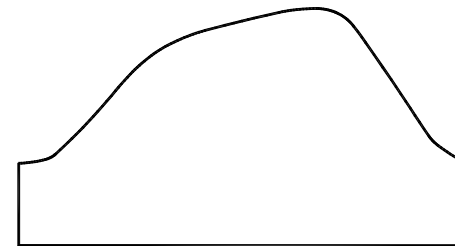
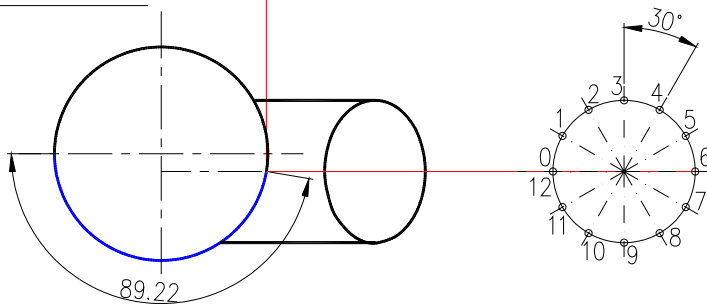
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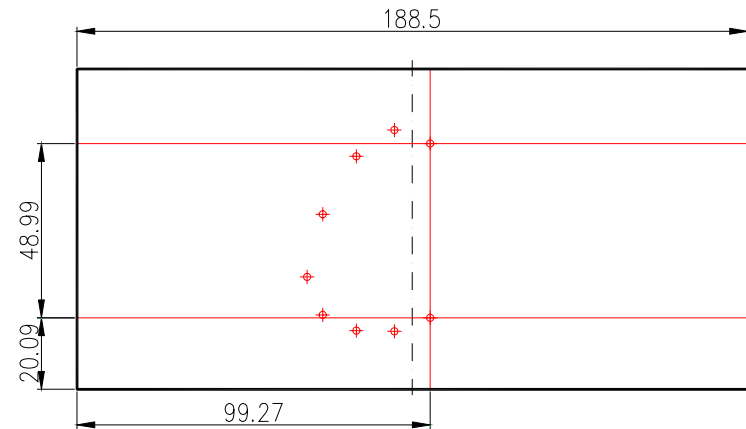
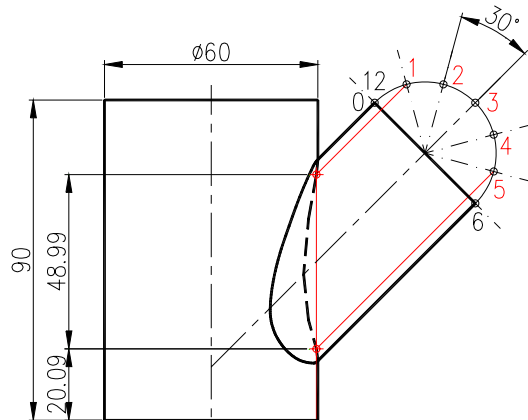


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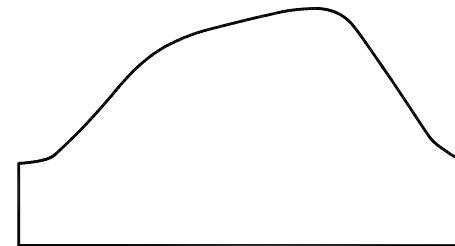
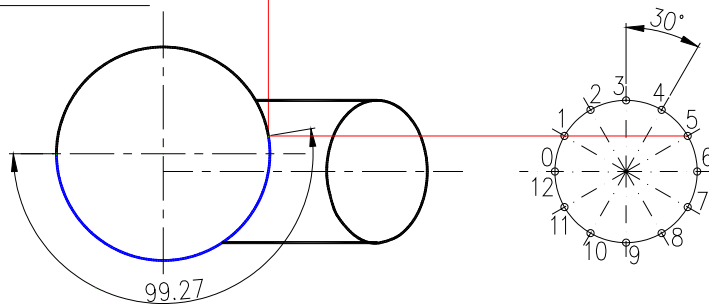
Projektionszeichen von Durchdringungen und Abwicklungen



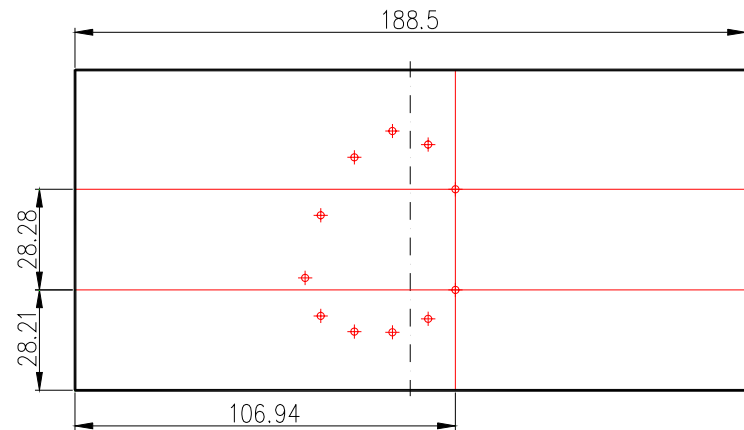
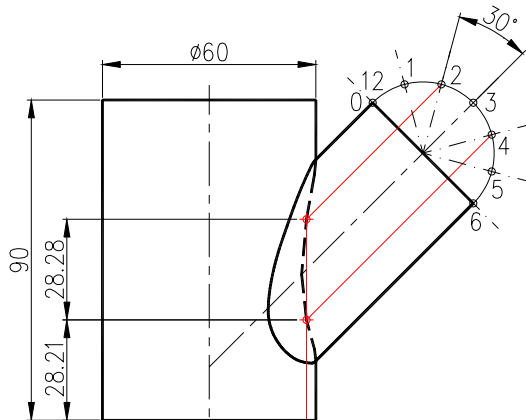
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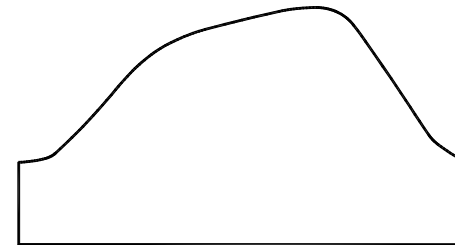
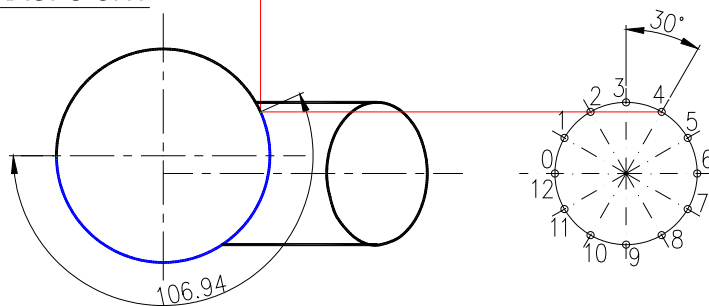
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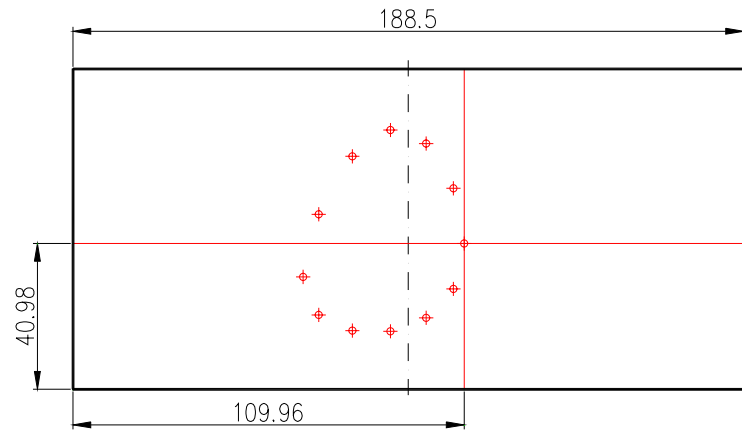
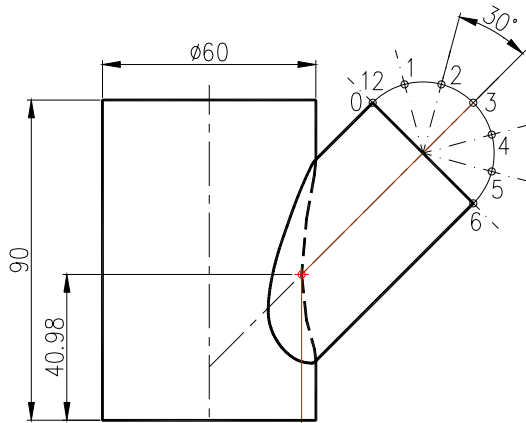
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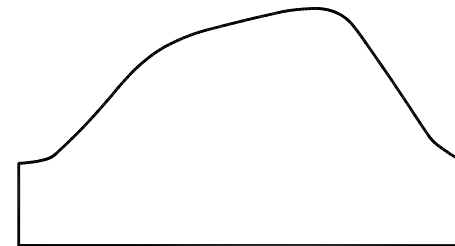
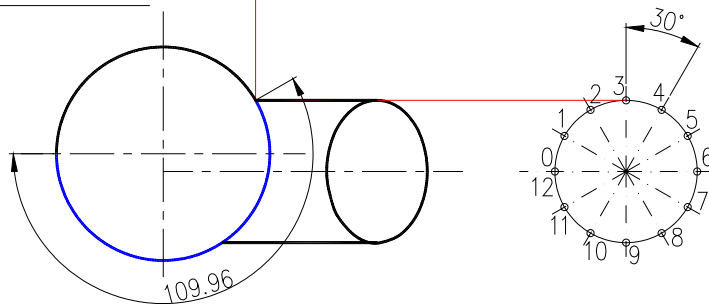
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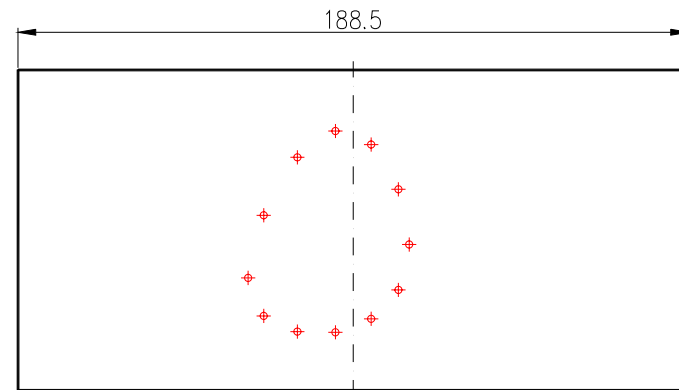
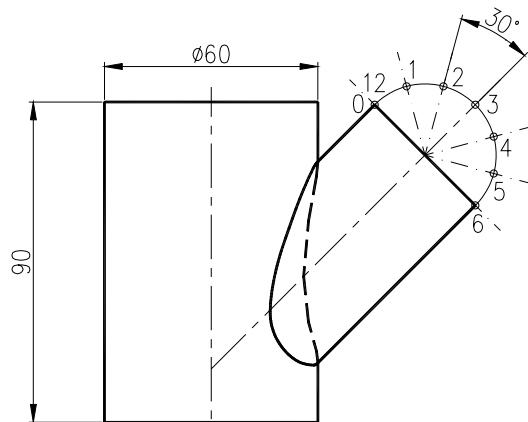
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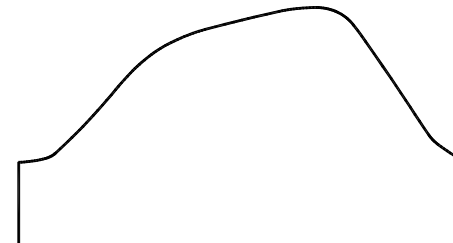
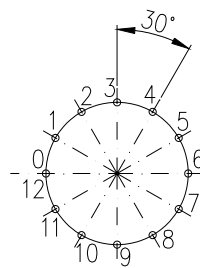
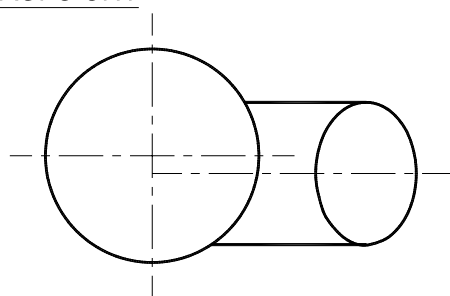
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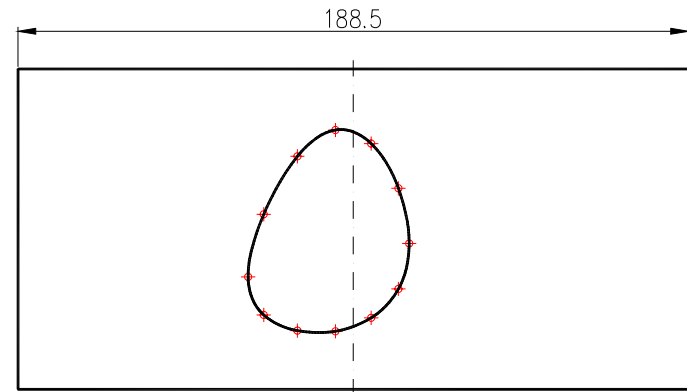
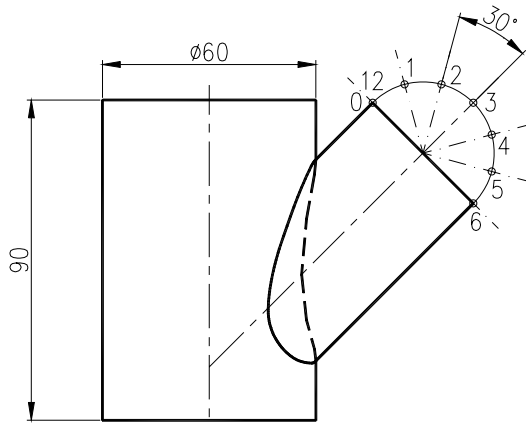
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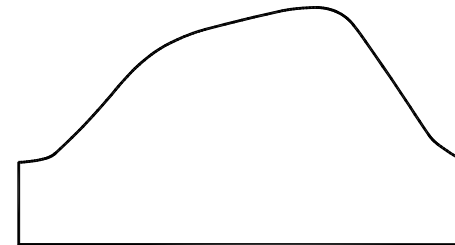
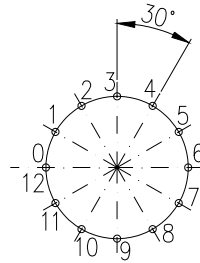
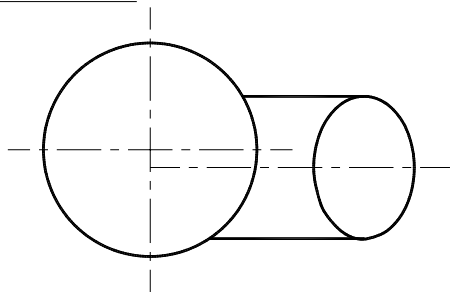
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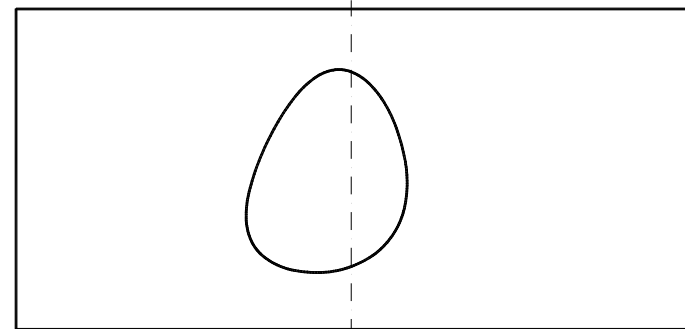
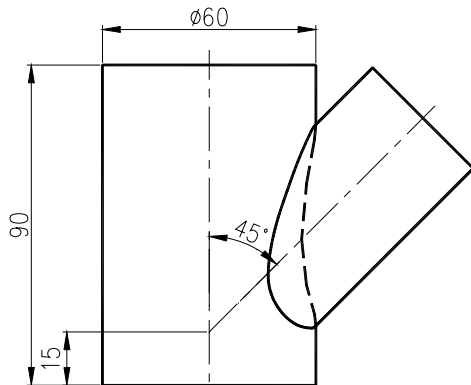


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