



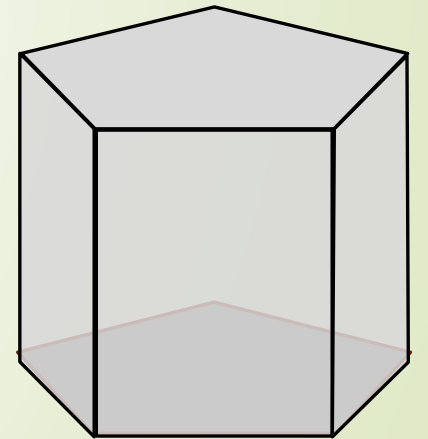
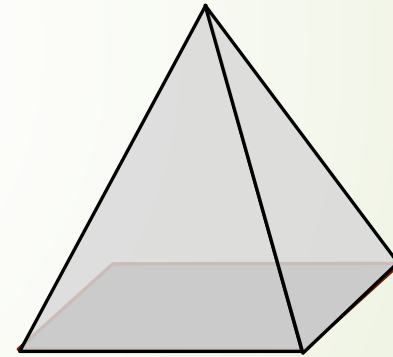
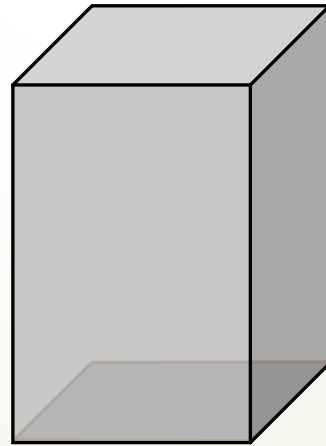
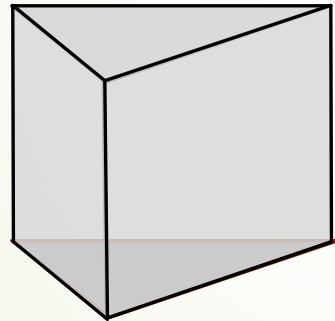
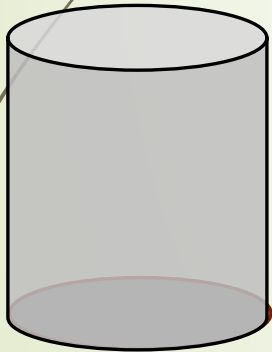
# Surface developments Cylinders and Cones

Grade 10, 11 & 12

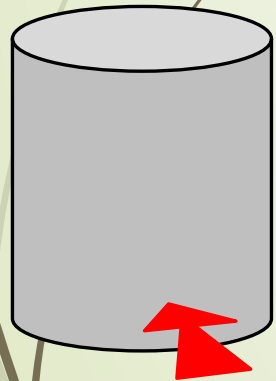
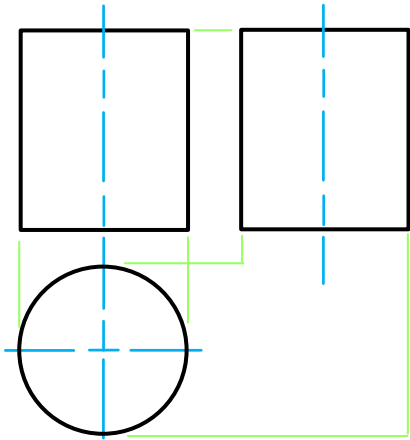
Developed by: PC Viljoen  
Senior Educational Specialist for  
Engineering Graphics and Design  
Free State Province

# Application on polygons

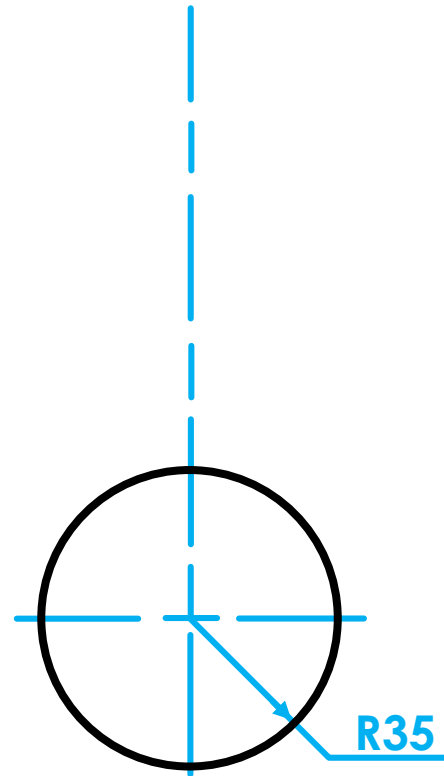
- Projecting right regular pyramids, prisms, cones and cylinders from polygons.



# Principles of surface developments



**FRONT VIEW**



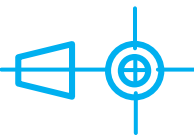
**Given:**

A cylinder with a radius of R 35.

**Question:**

In F.A.O.P. draw...

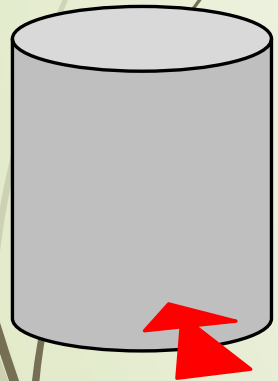
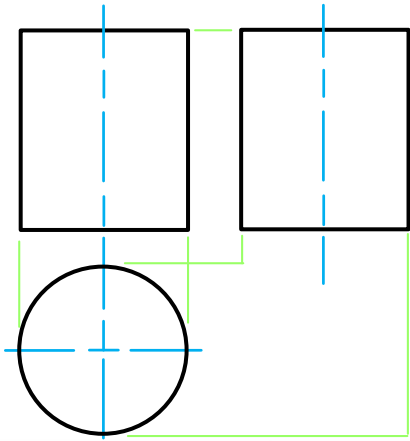
1. A front view
2. A left view
3. A **top view**
4. Develop the surface of the solid



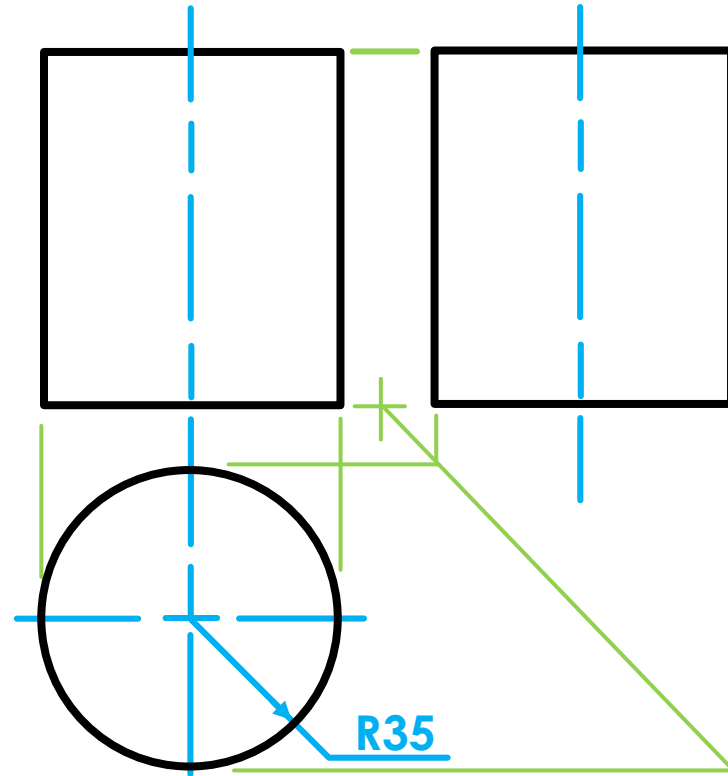
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# Principles of surface developments



**FRONT VIEW**



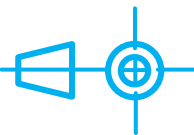
**Given:**

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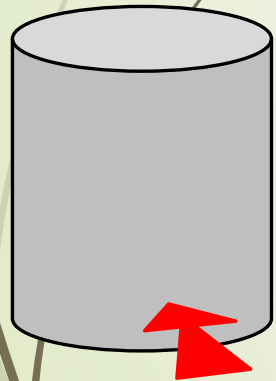
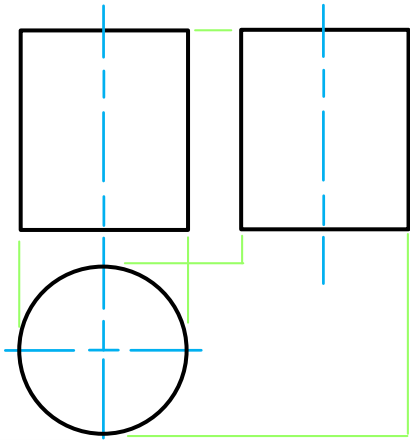
1. **A front view**
2. **A left view**
3. A top view
4. Develop the surface of the solid



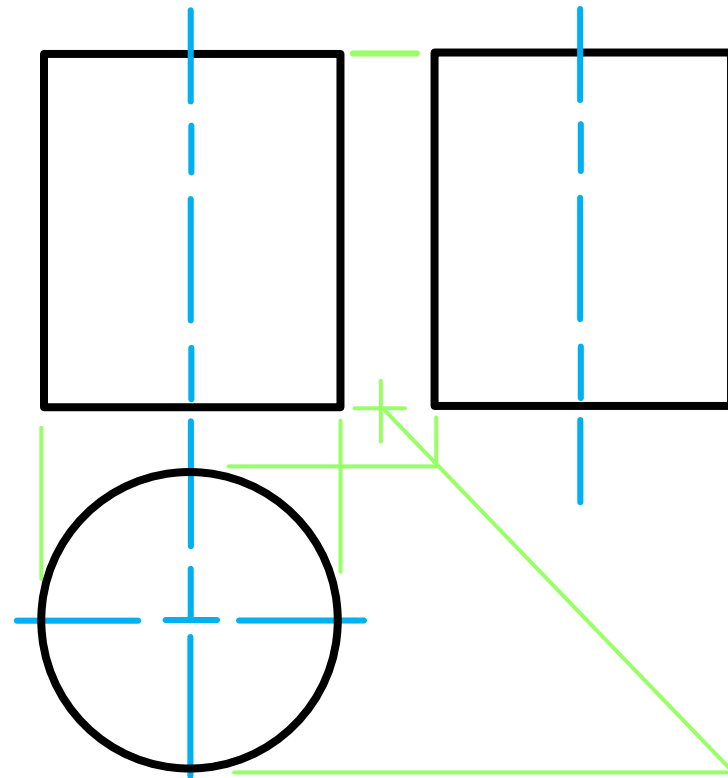
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# Principles of surface developments



**FRONT VIEW**



**Circumference of the circle:**

$$\begin{aligned} &= 2\pi r \\ &= 2 \times 3,141592654 \times 35 \\ &= 109,95 \\ &= 110 \end{aligned}$$

**Given:**

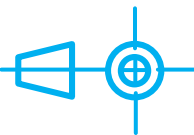
A cylinder with a radius of R 35.

**Question:**

In F.A.O.P. draw...

1. A front view
2. A left view
3. A top view

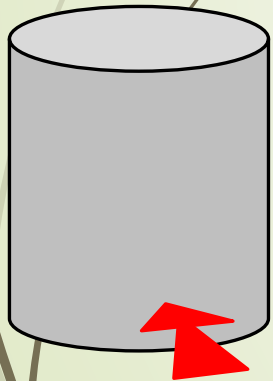
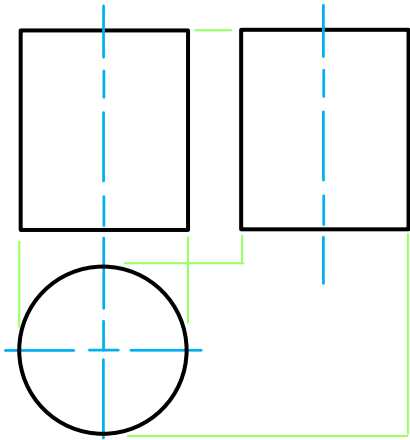
**4. Develop the surface of the solid**



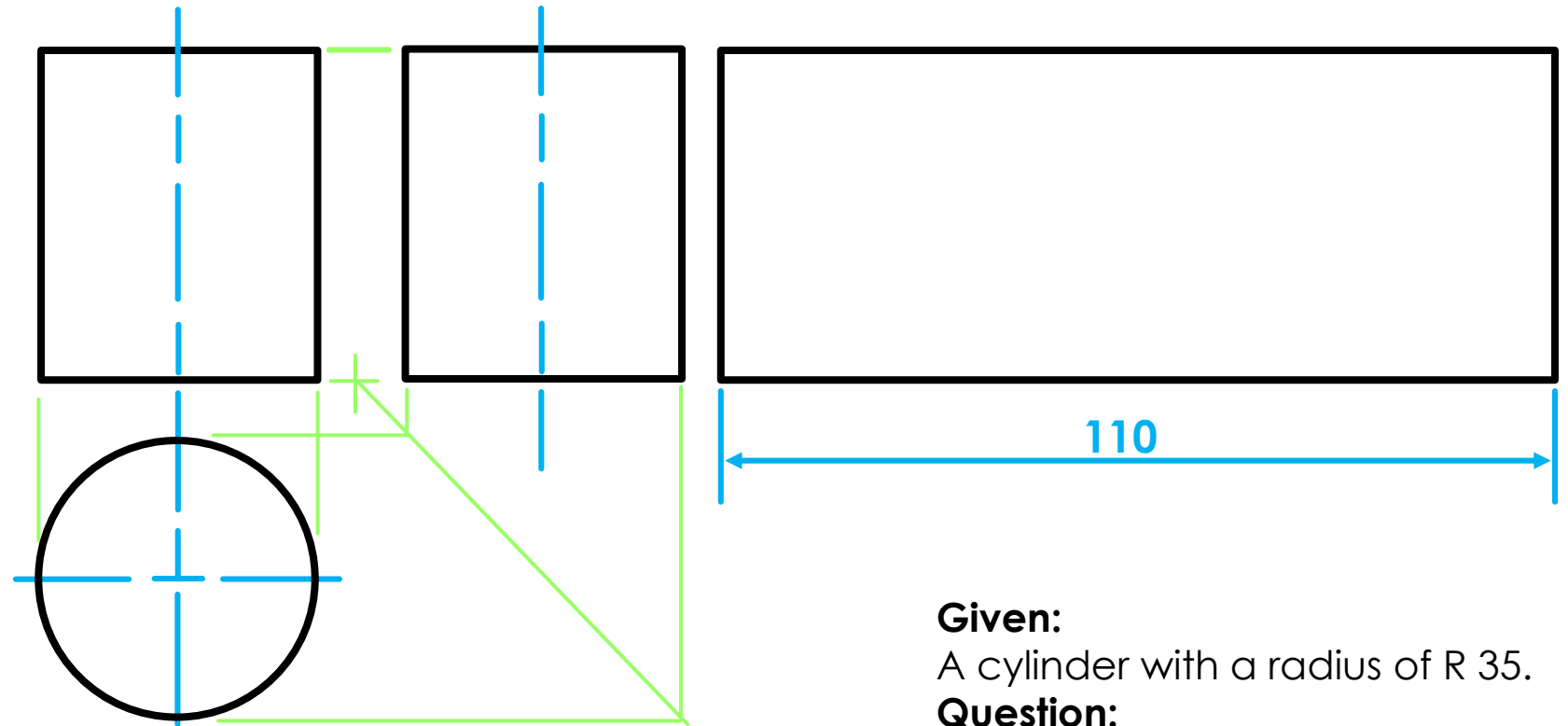
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# Principles of surface developments



**FRONT VIEW**



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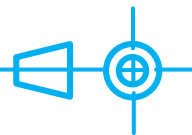
A cylinder with a radius of R 35.

**Question:**

In F.A.O.P. draw...

1. A front view
2. A left view
3. A top view

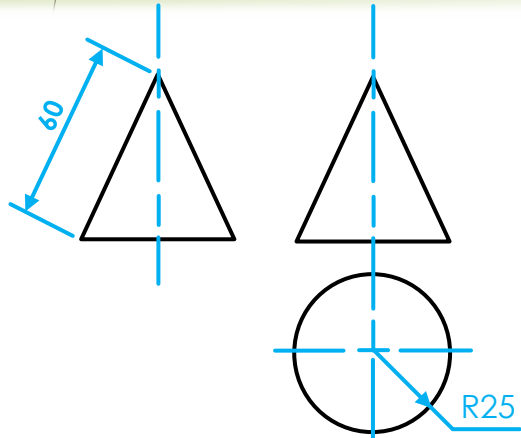
**4. Develop the surface of the solid**



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# Principles of surface developments



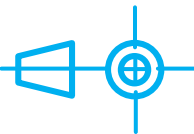
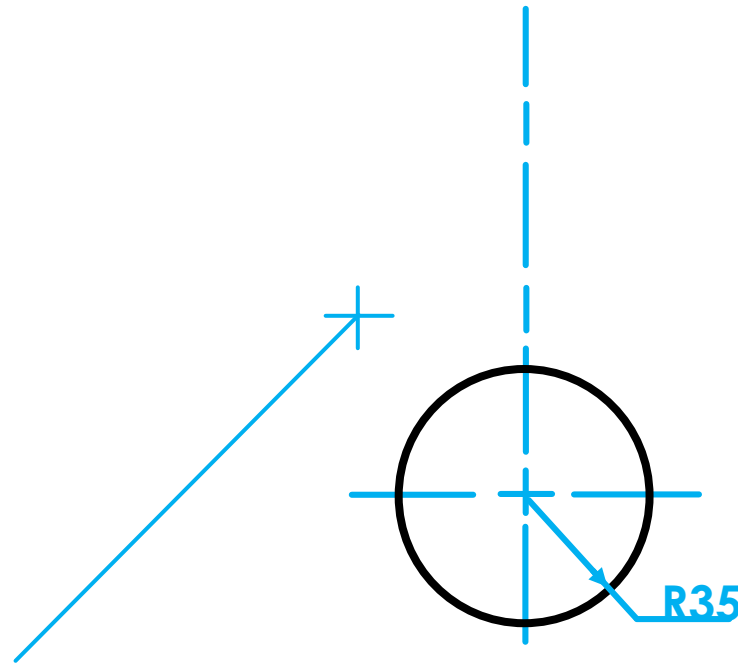
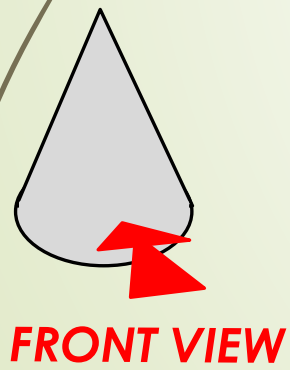
**Given:**

A cone with R25 and side length of 60 mm.

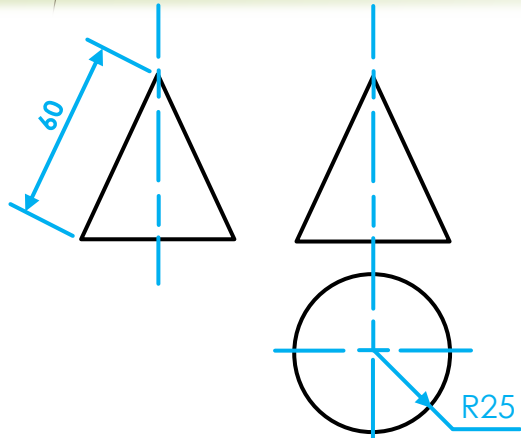
**Question:**

In F.A.O.P. draw...

1. A front view
2. A right view
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4. Develop the surface of the solid



# Principles of surface developments



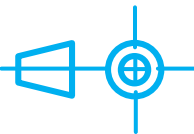
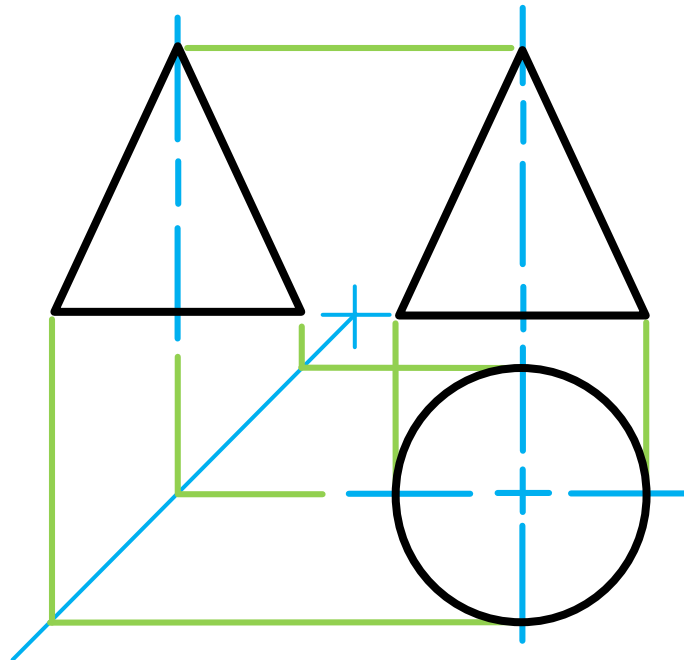
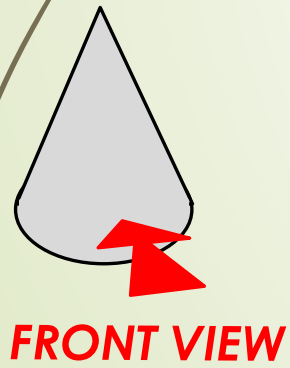
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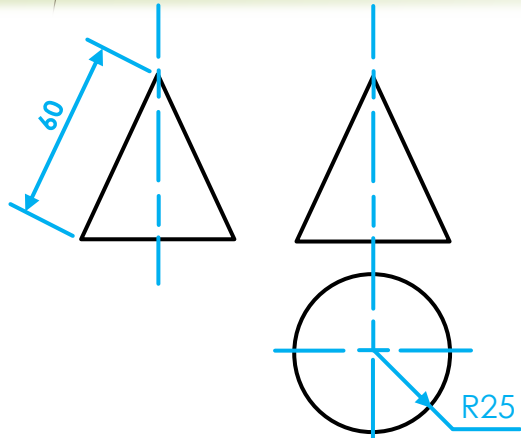
**Question:**

In F.A.O.P. draw...

1. A front view
2. A right view
3. A sectioned top view
4. Develop the surface of the solid



# Principles of surface developments



**Given:**

A cone with R25 and side length of 60 mm.

**Question:**

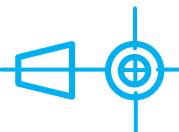
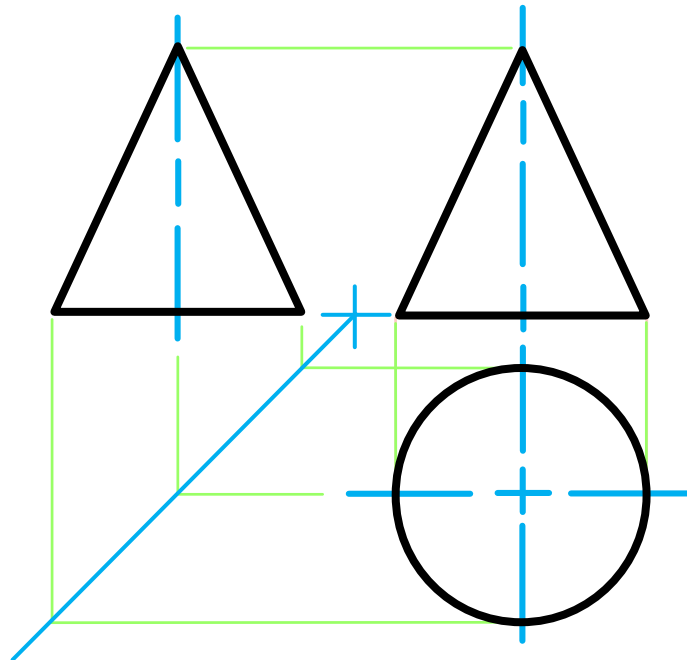
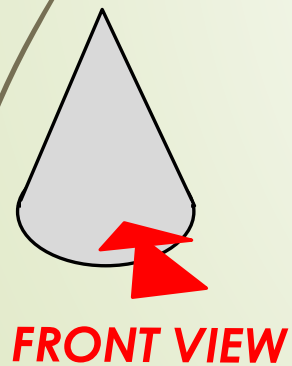
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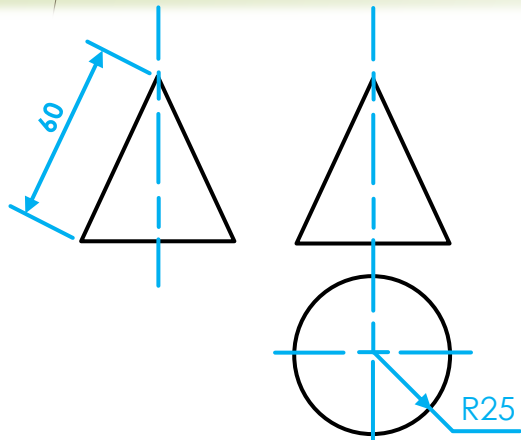
**4. Develop the surface of the solid**

**Circumference of the circle:**

$$\begin{aligned}
 &= \frac{R}{S} \times \frac{360^\circ}{1} \\
 &= \frac{25}{60} \times \frac{360^\circ}{1} \\
 &= 0,416666666 \times 360^\circ \\
 &= 150^\circ
 \end{aligned}$$



# Principles of surface developments



**Given:**

A cone with R25 and side length of 60 mm.

**Question:**

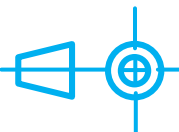
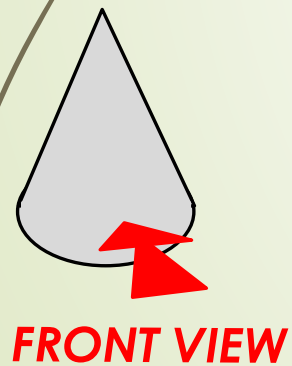
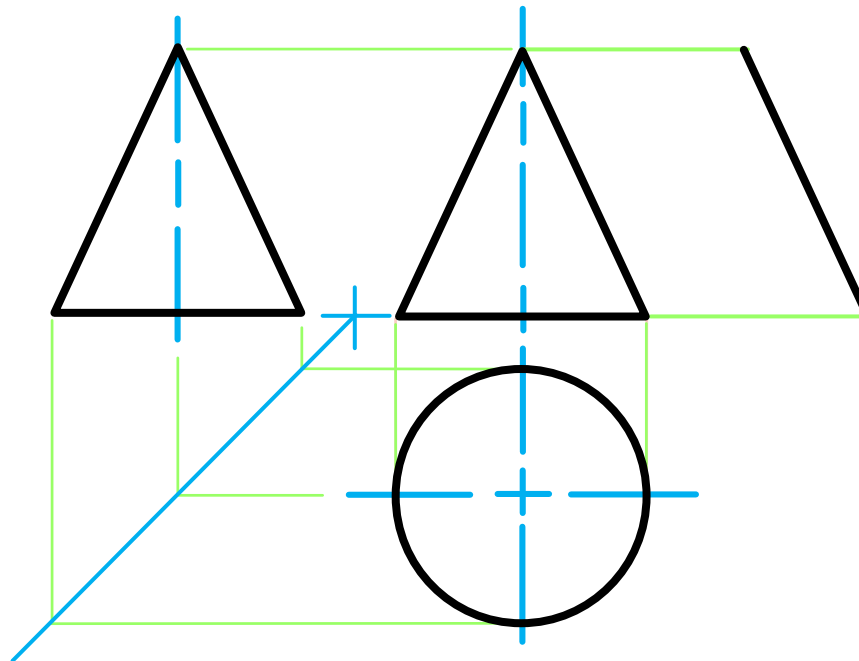
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2. A right view
3. A sectioned top view

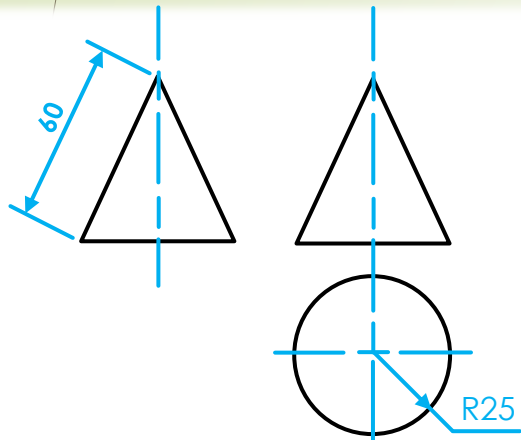
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