



# LOCI of a CAM

**Grade 11 & 12**

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Engineering Graphics and Design  
Free State Province

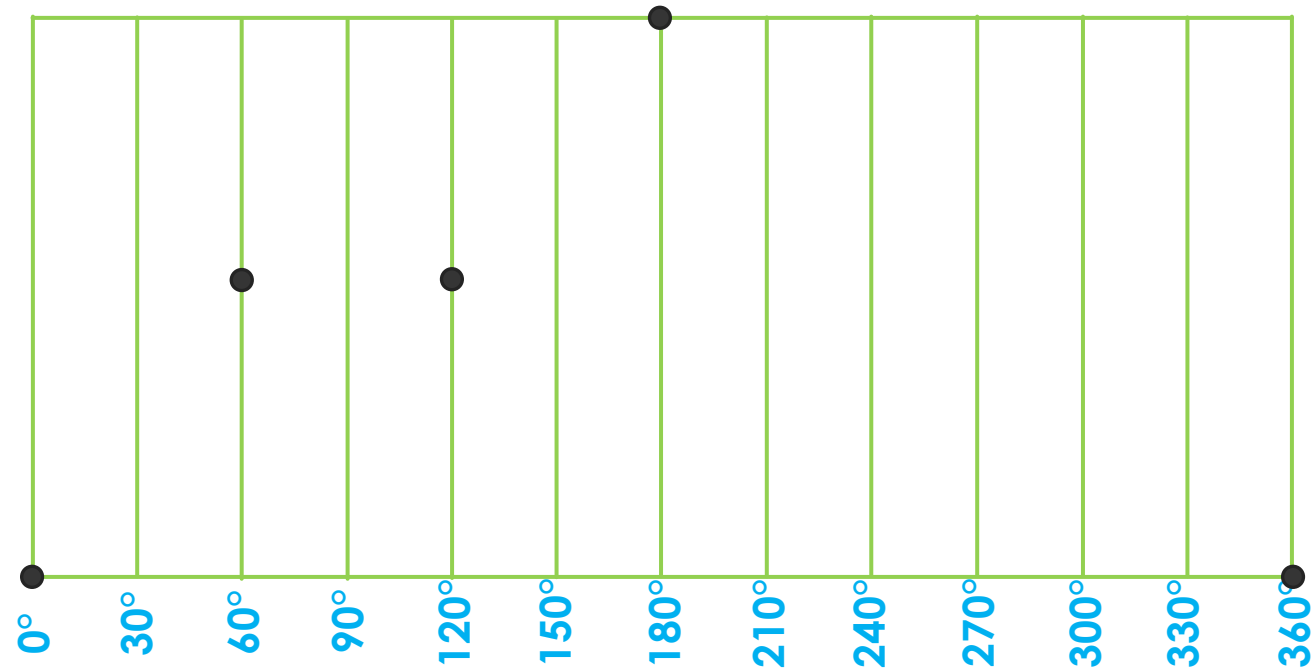
# Loci of a CAM: General information

- There are three different type of movements:
  - Uniform movement
  - Harmonic movement
  - Acceleration and retardation movement

# Loci of a CAM: UNIFORM MOVEMENT

## By means of uniform motion

- $0^{\circ}$ - $60^{\circ}$ : Rise for 50%
- $60^{\circ}$ - $120^{\circ}$ : Rest
- $120^{\circ}$ - $180^{\circ}$ : Rise to maximum
- $180^{\circ}$ - $360^{\circ}$ : Back to original position



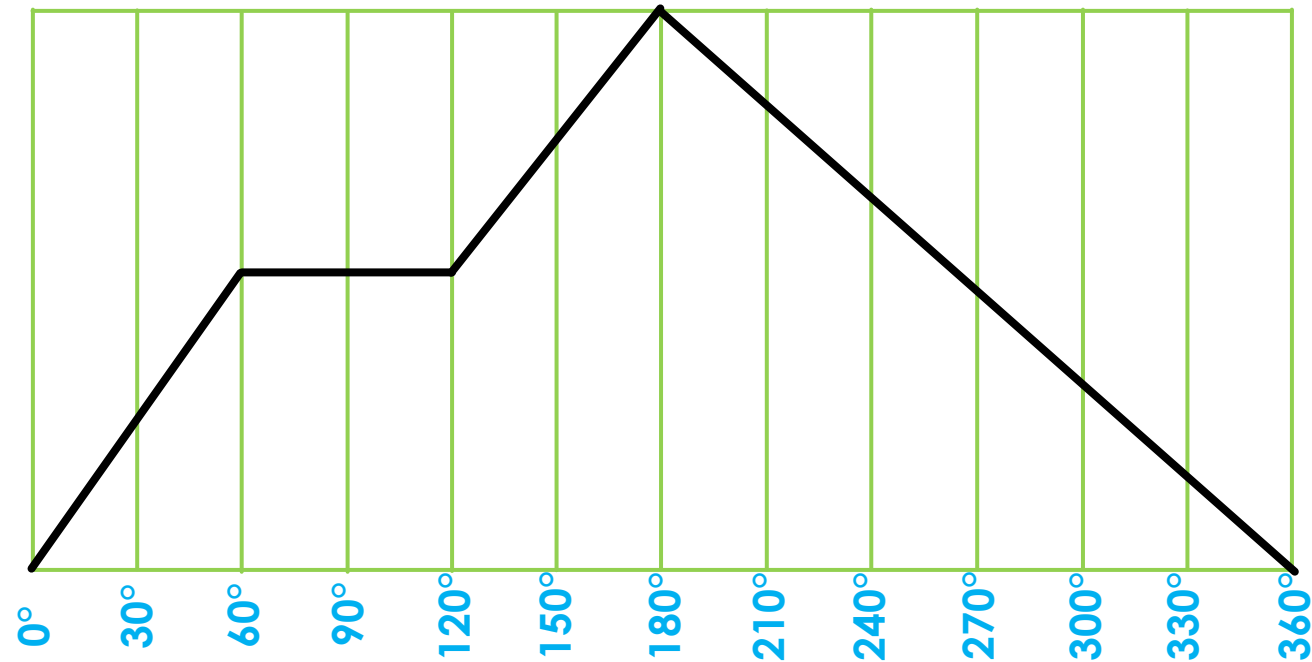
Displacement graph  
Scale 10mm =  $30^{\circ}$

Vertical scale 1:1

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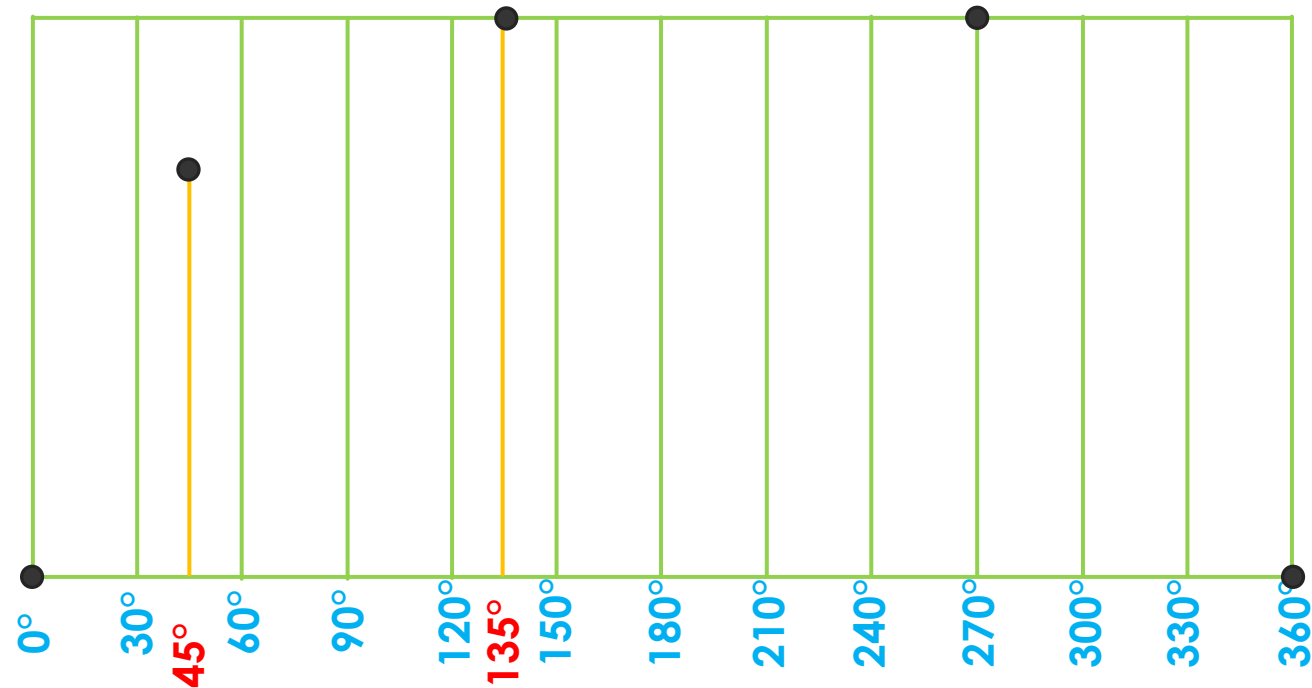
Vertical scale 1:1

Displacement graph  
Scale 10mm =  $30^{\circ}$

# Loci of a CAM: UNIFORM MOVEMENT

## By means of uniform motion

- $0^{\circ}$ - $45^{\circ}$ : Rise with 50mm
- $35^{\circ}$ - $135^{\circ}$ : Rise to maximum
- $125^{\circ}$ - $270^{\circ}$ : Rest
- $270^{\circ}$ - $360^{\circ}$ : Back to original position



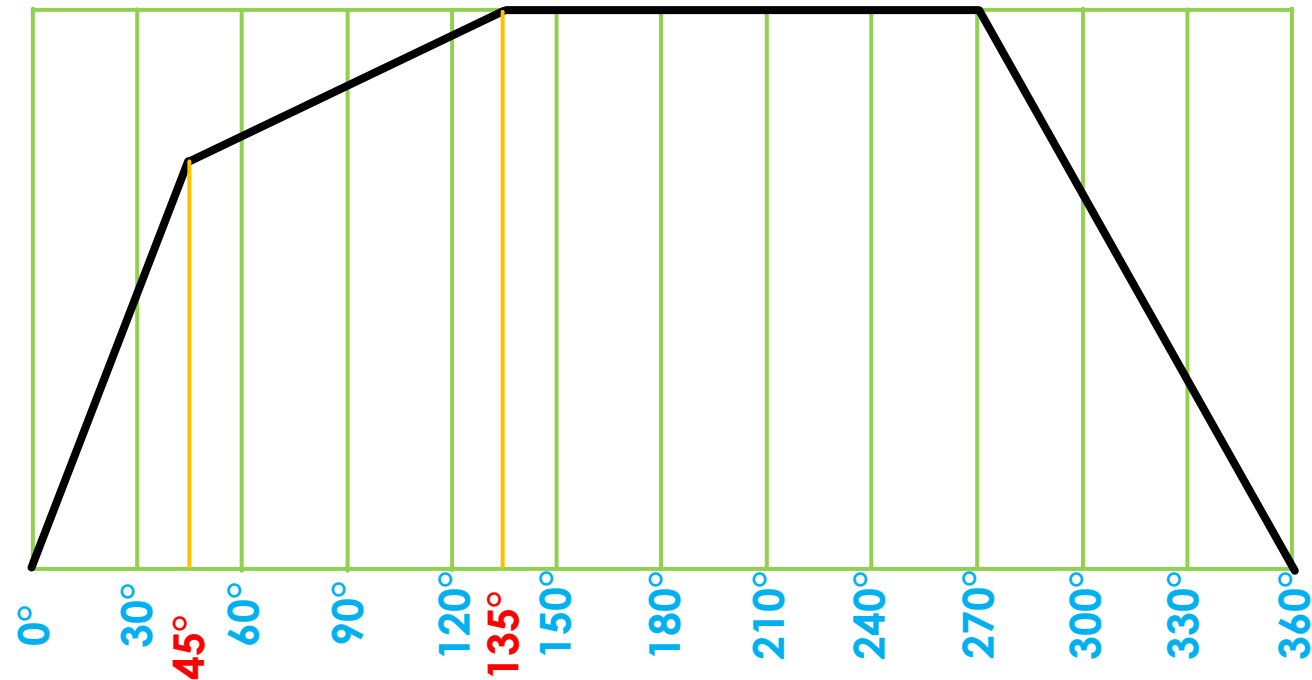
Displacement graph  
Scale 10mm = 30°

Vertical scale 1:1

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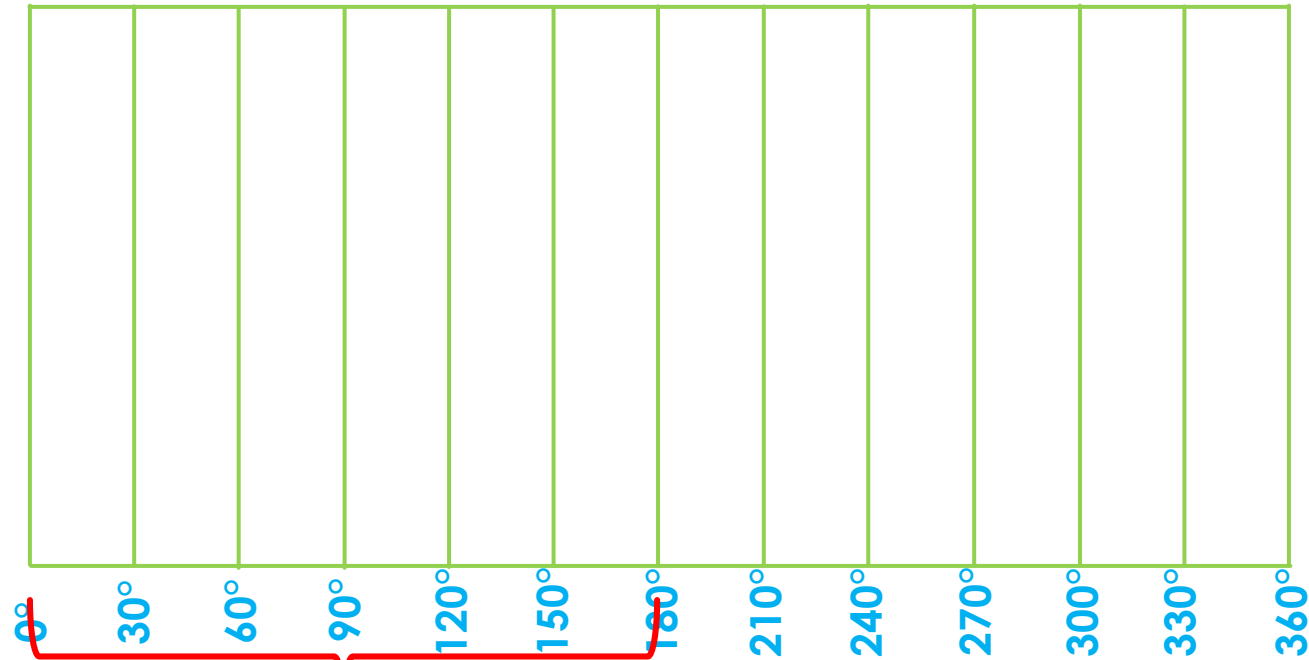
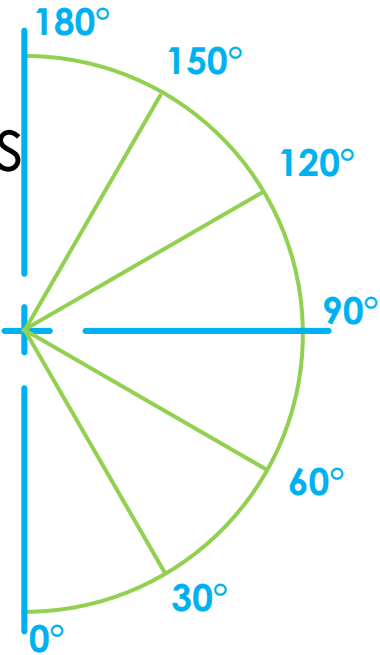


Displacement graph  
Scale 10mm =  $30^{\circ}$

Vertical scale 1:1

# Loci of a CAM: HARMONIC MOVEMENT

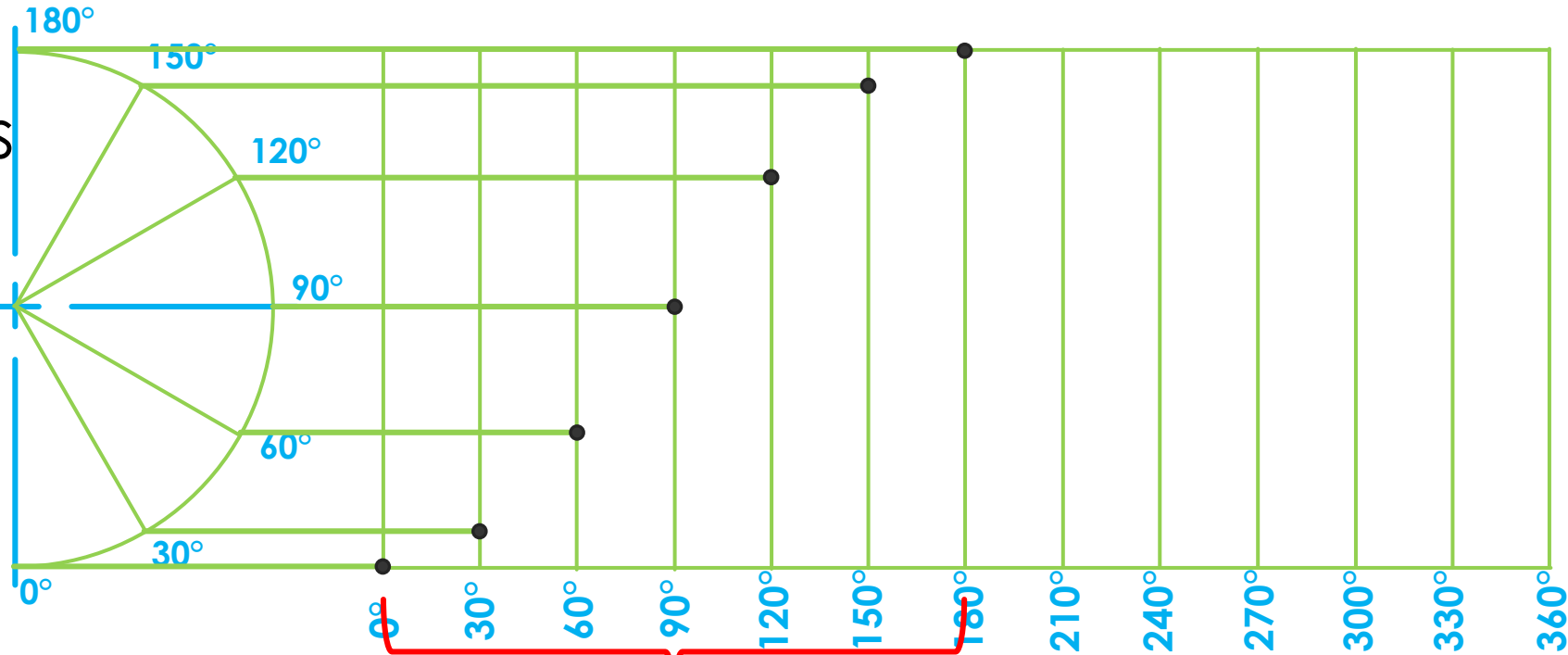
- $0^\circ$ - $180^\circ$ :  
Rise by means of **Harmonic movement**
- $180^\circ$ - $360^\circ$ :  
Move to original position by means of **Uniform movement**



Displacement graph  
Scale  $10\text{mm} = 30^\circ$

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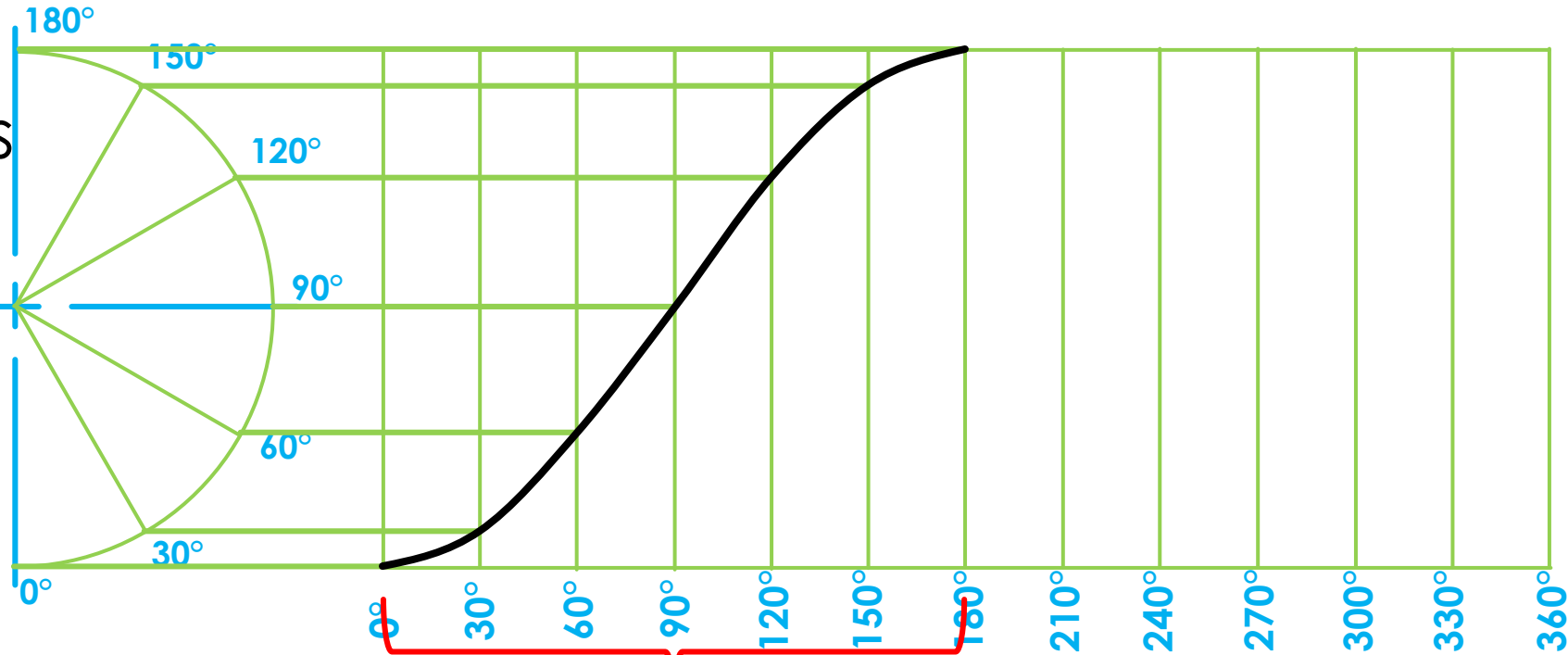
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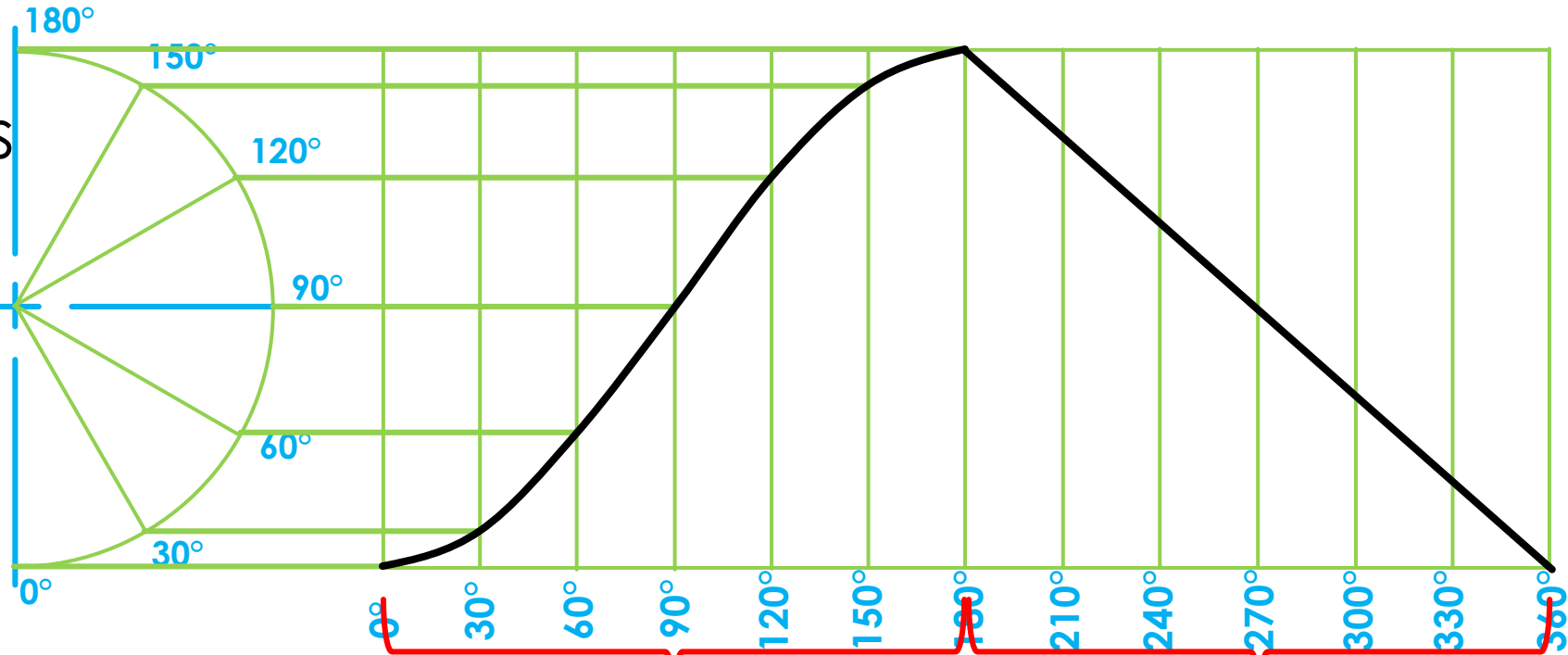


Vertical scale 1:1

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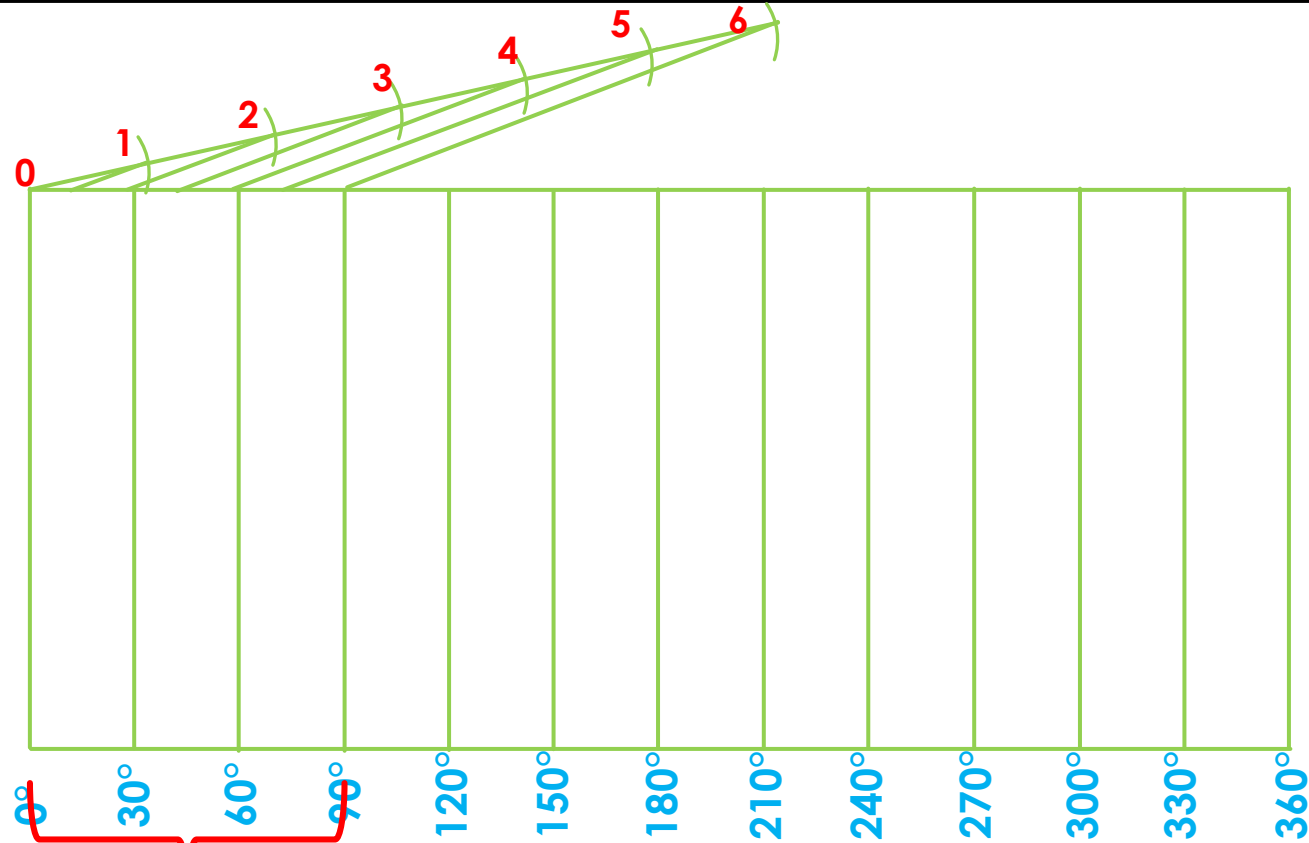


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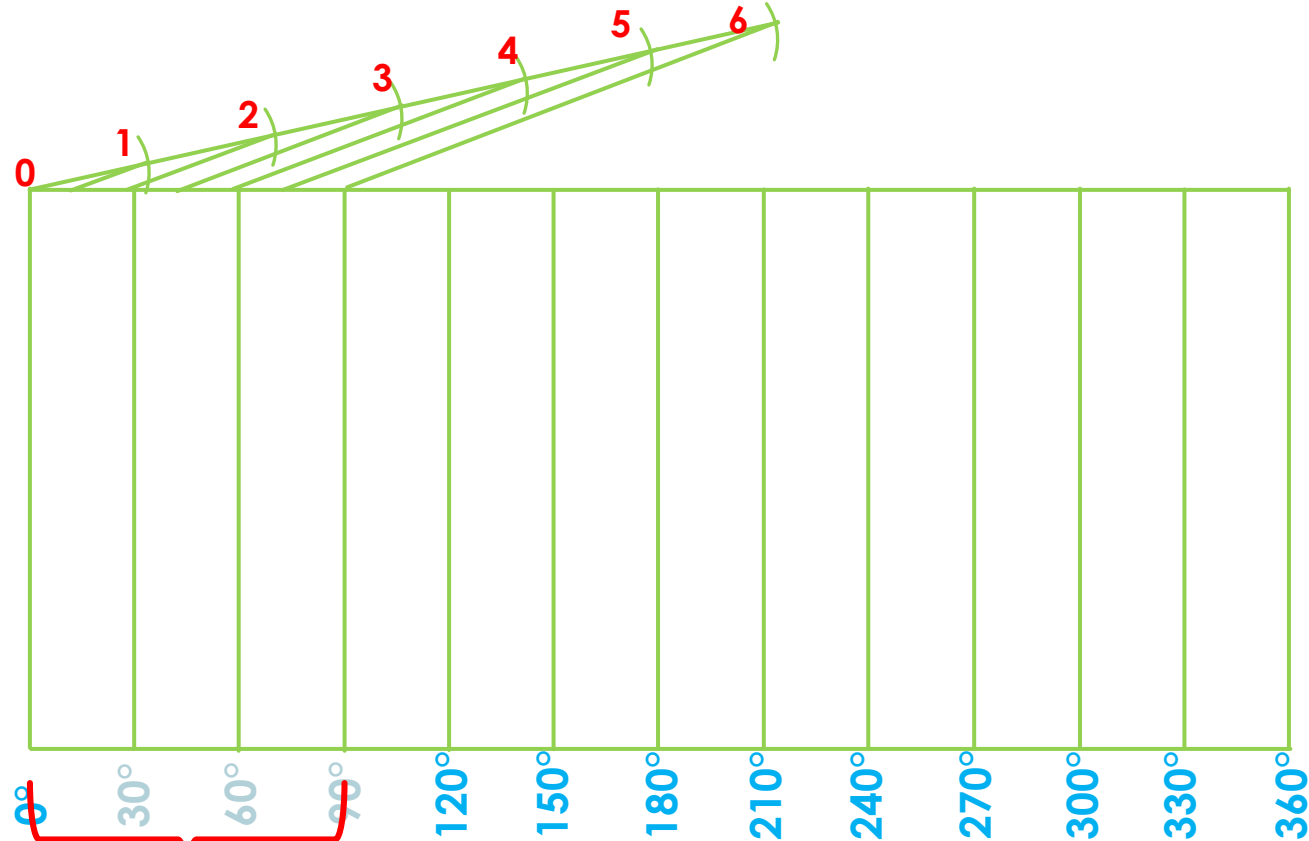
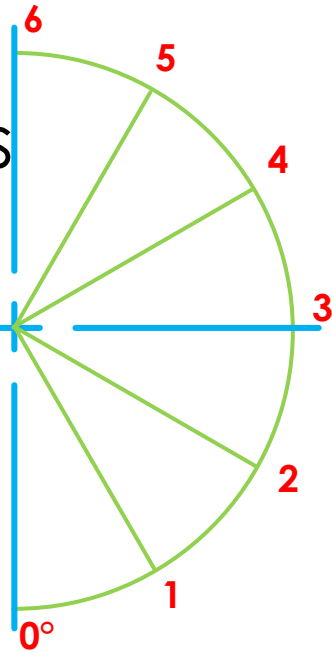
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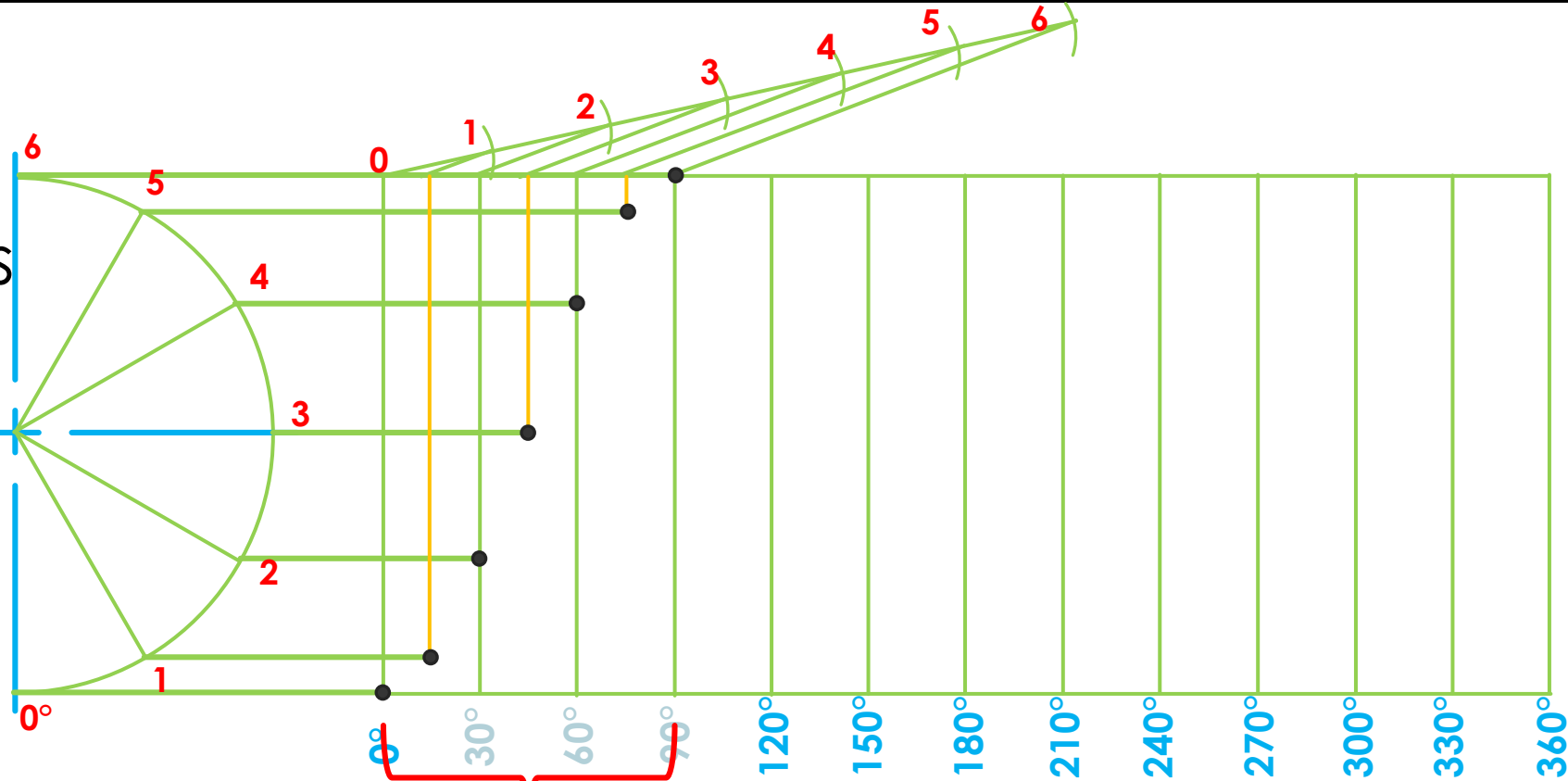


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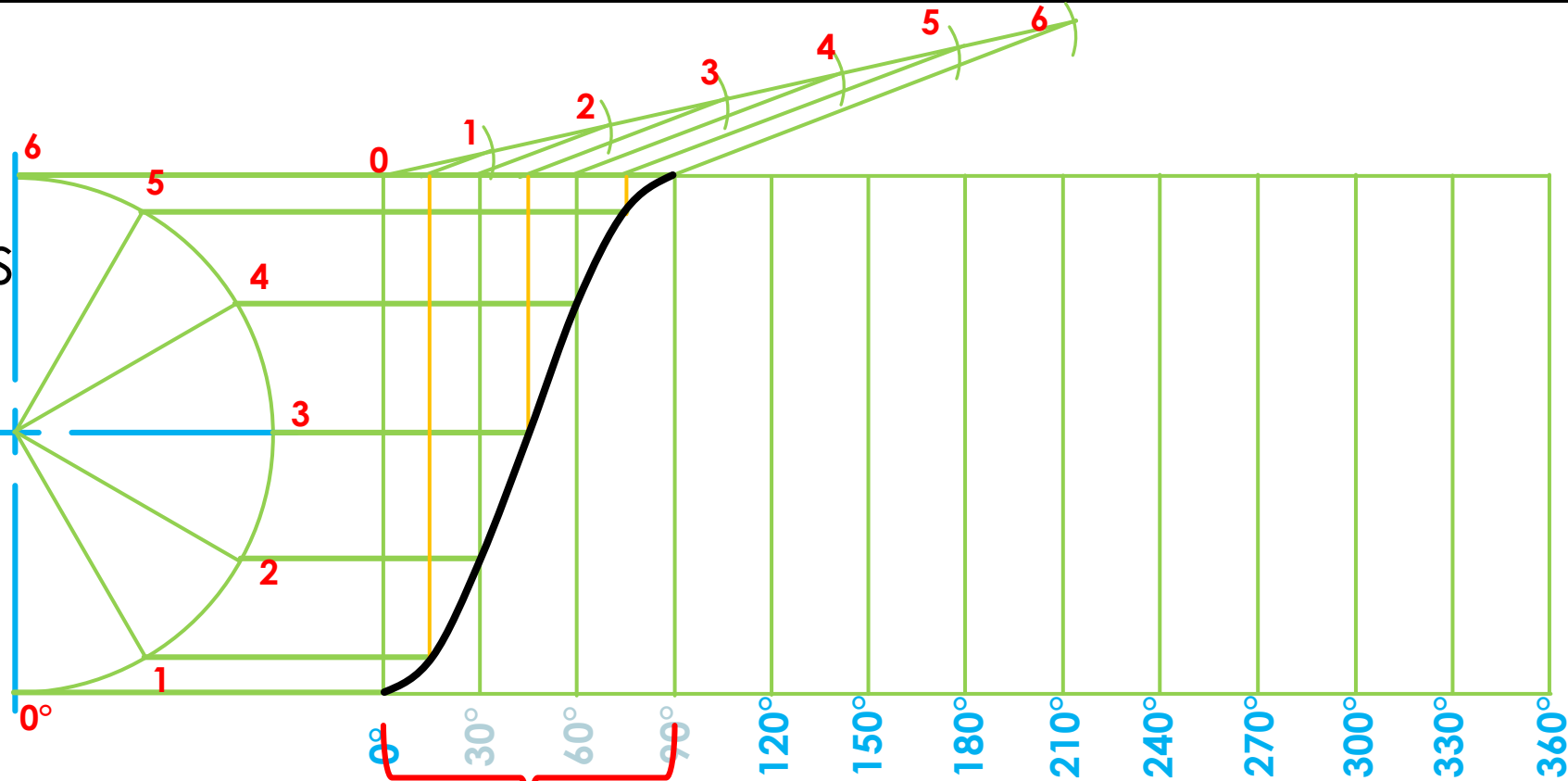


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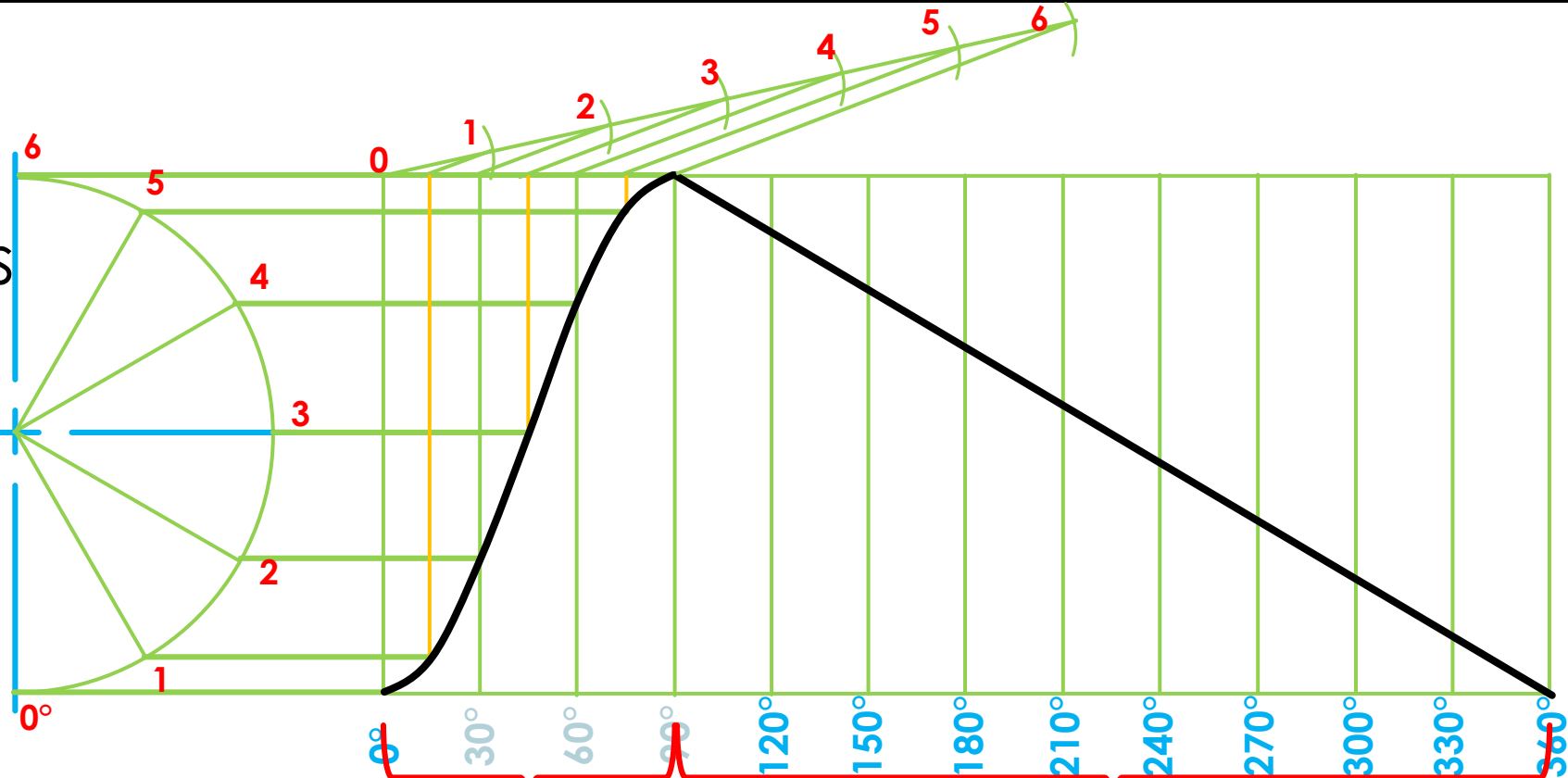


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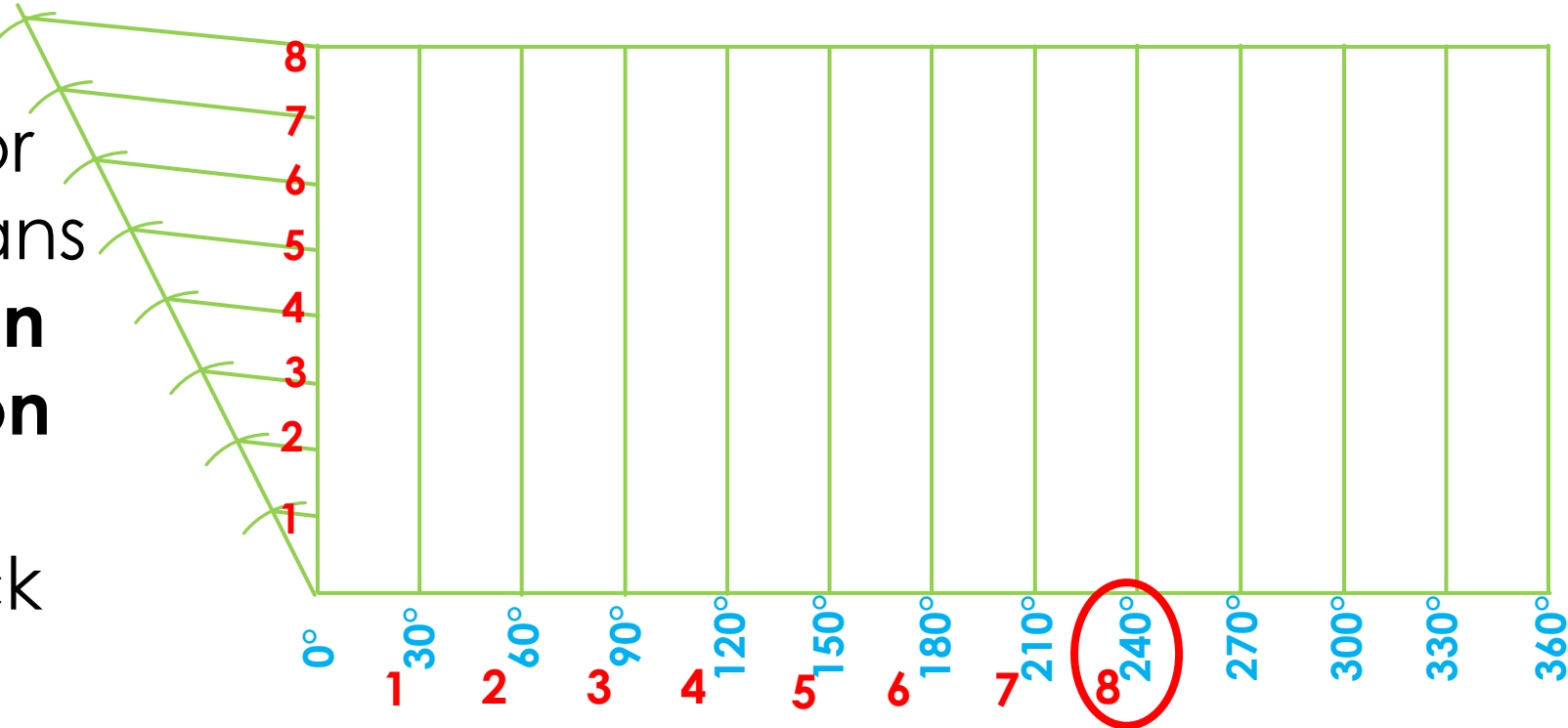
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Vertical scale 1:1

# Loci of a CAM: ACCELERATION & RETARDATION MOVEMENT

Equal number

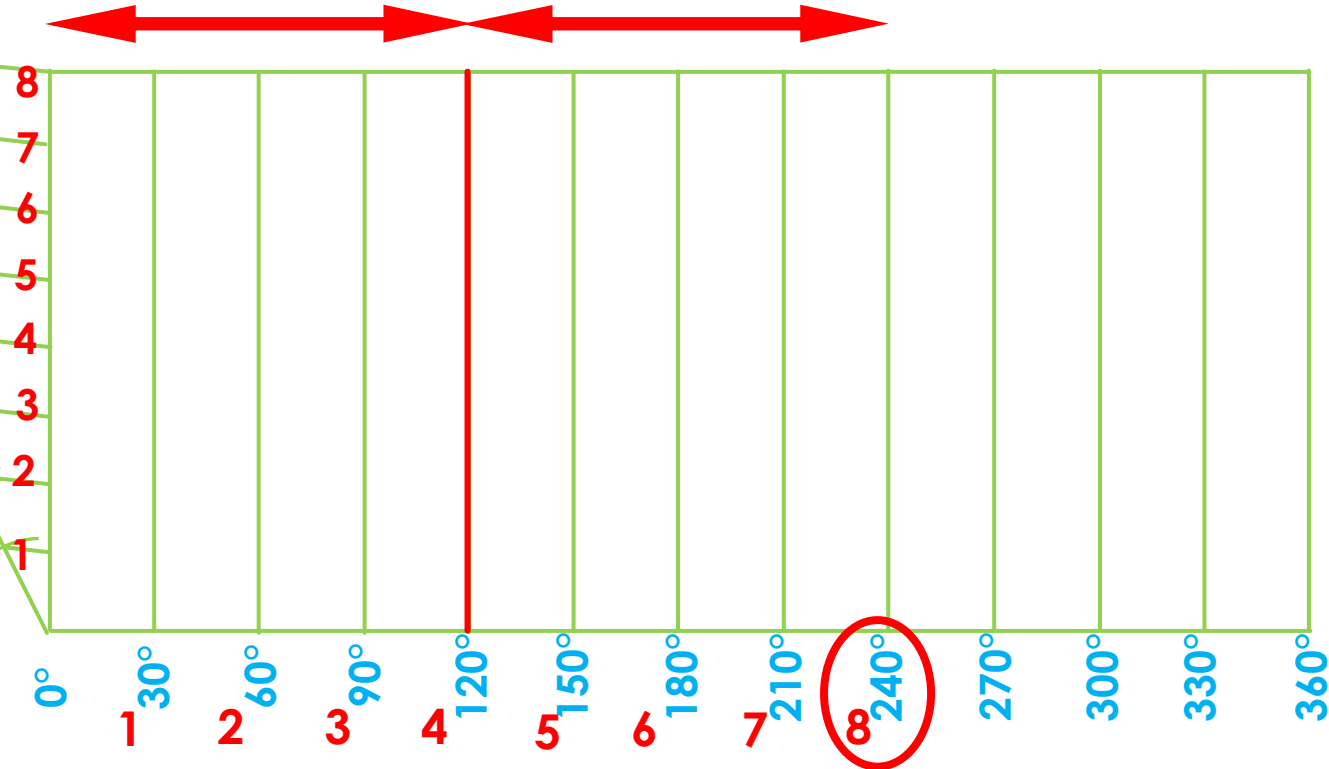
- $0^\circ$ - $240^\circ$ : Rise for 50mm by means of **acceleration and retardation movement**
- $240^\circ$ - $360^\circ$ : Back to original position by means of **uniform motion**



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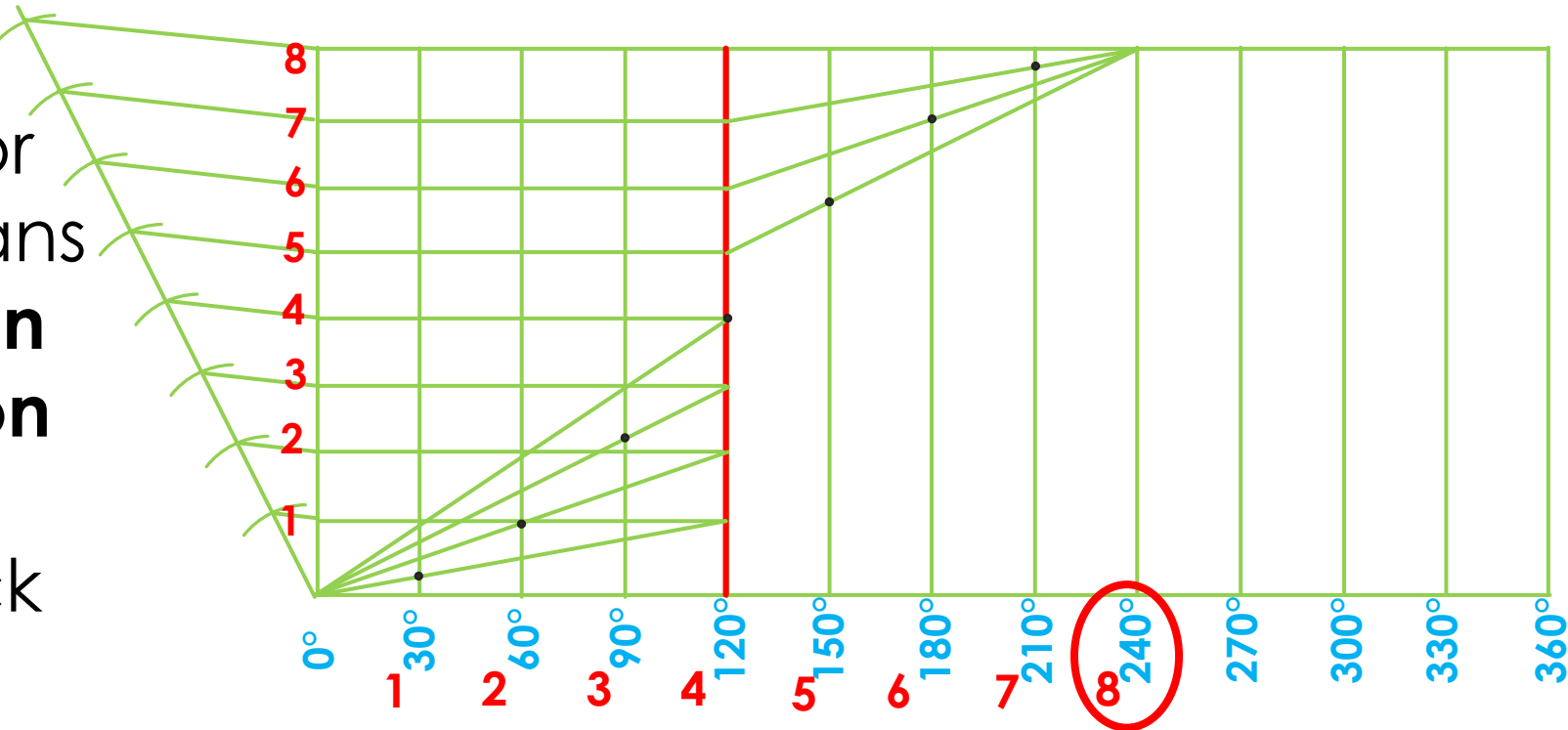
Displacement graph  
Scale 10mm = 30°

Vertical scale 1:1

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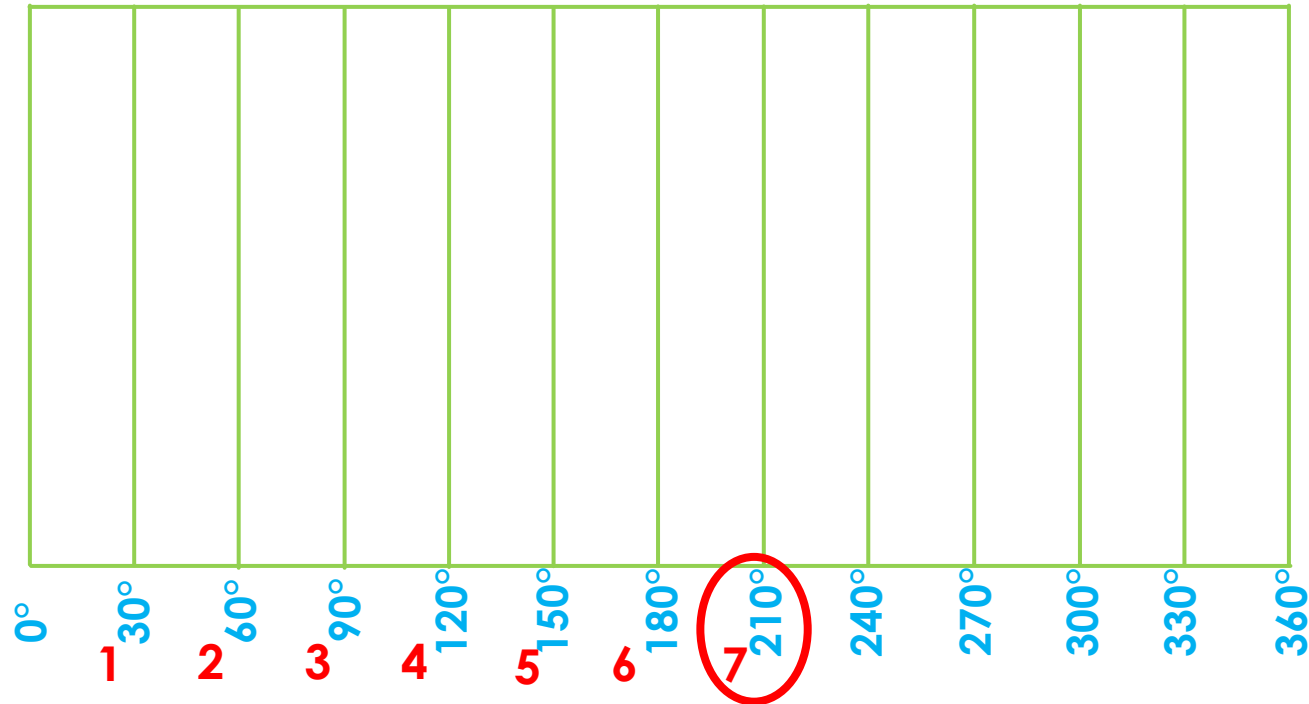
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Vertical scale 1:1

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## Unequal number

- $0^\circ$ - $210^\circ$ : Rise for 50mm by means of **acceleration and retardation movement**
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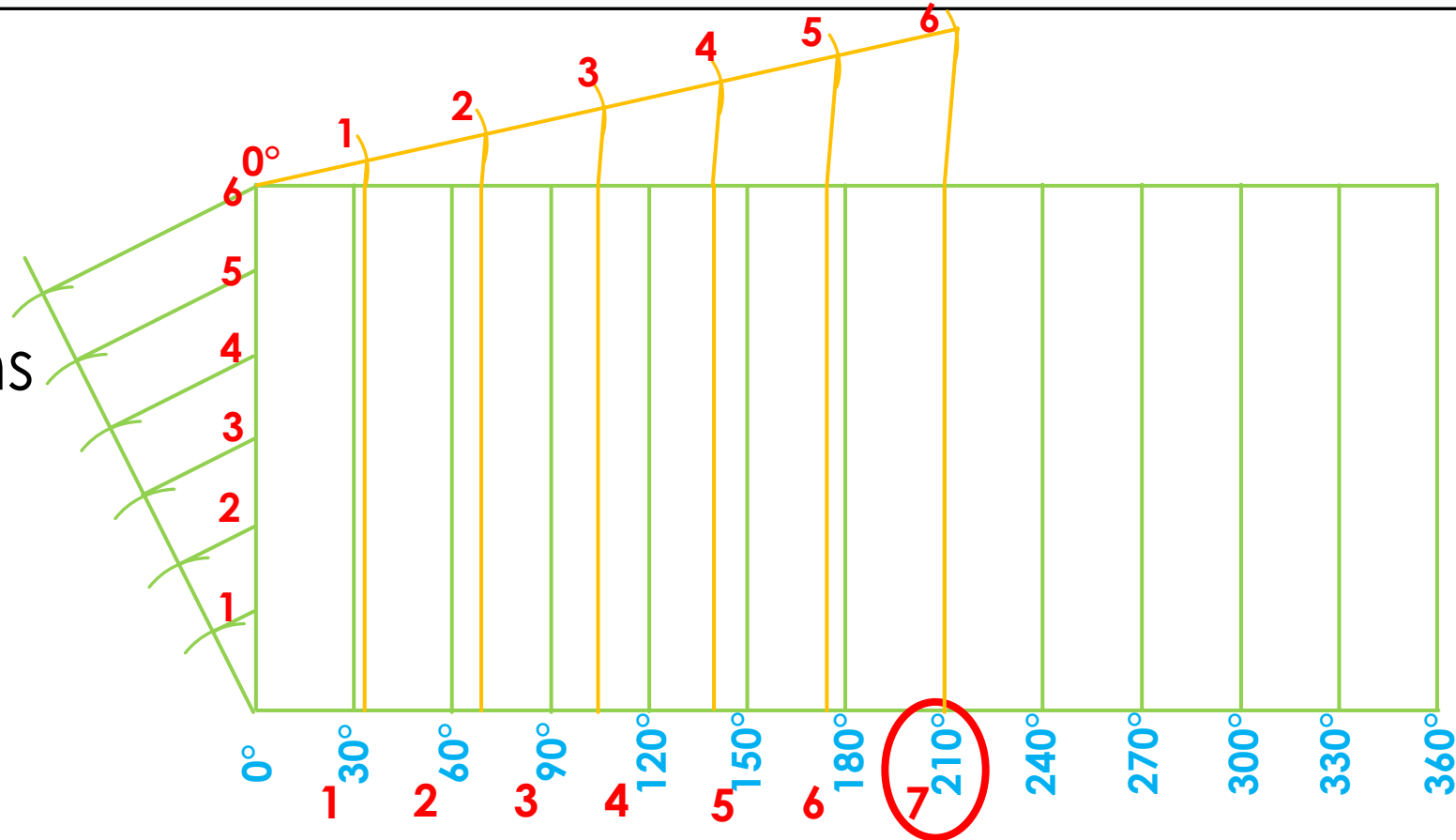
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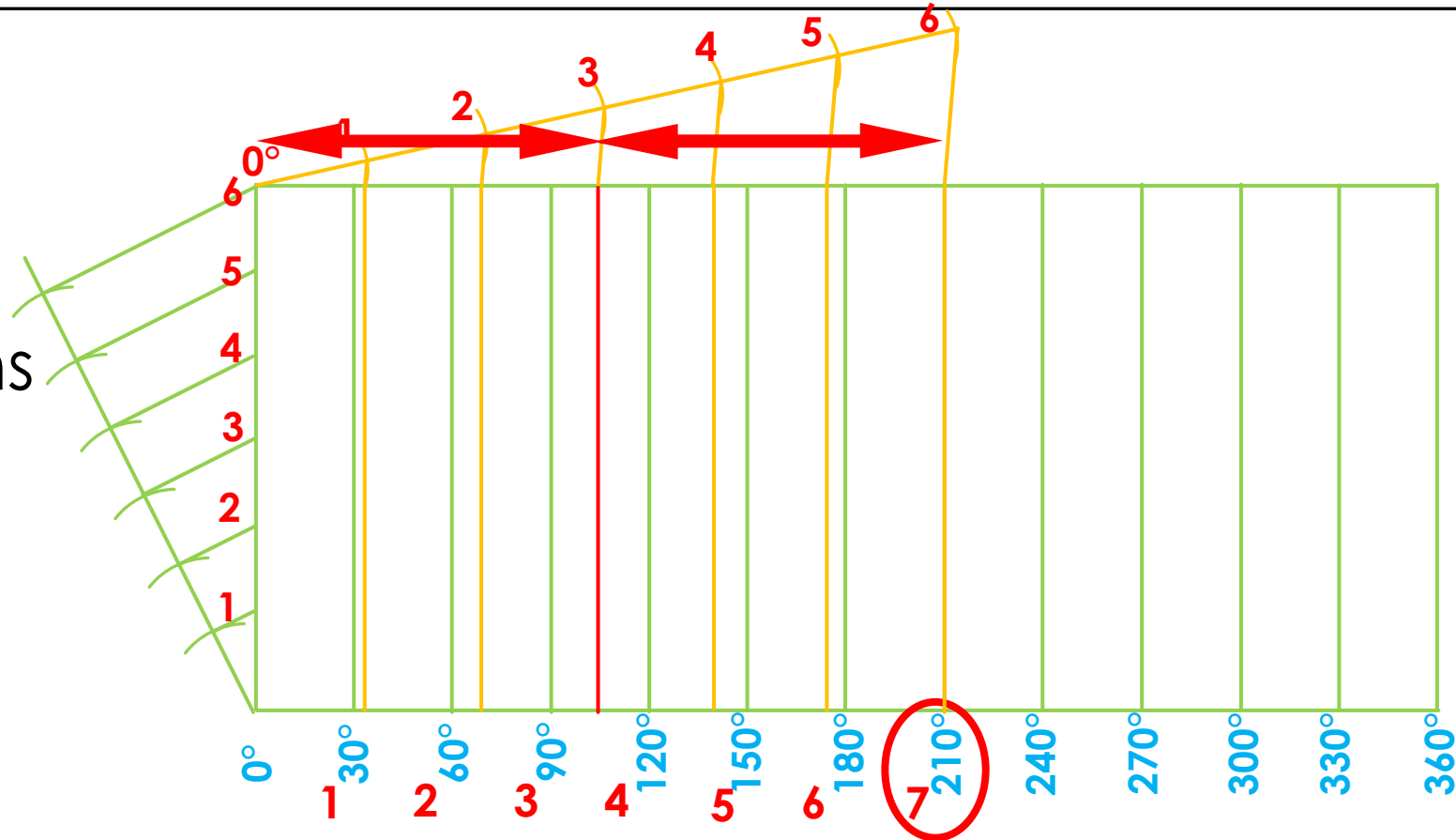
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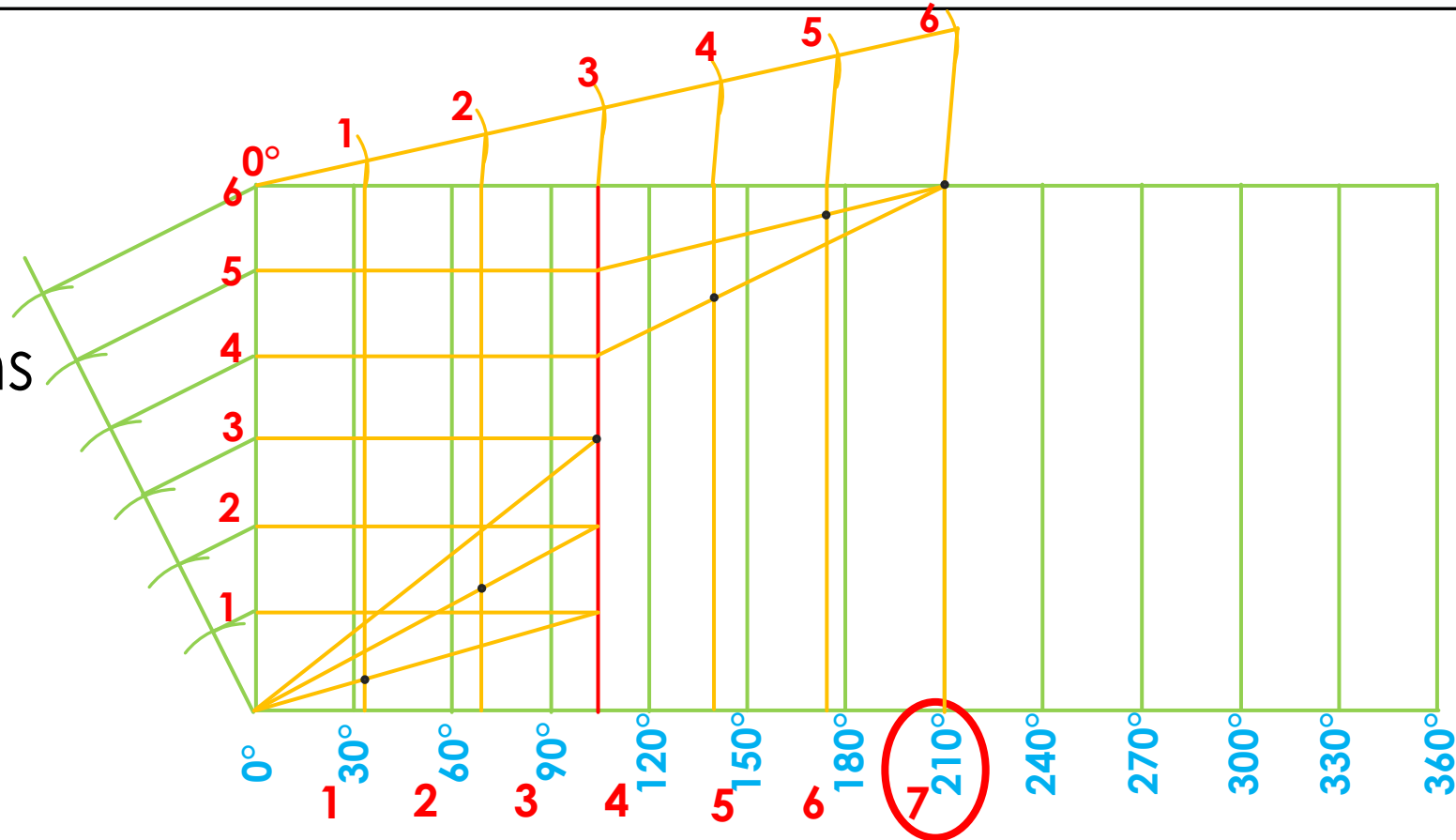
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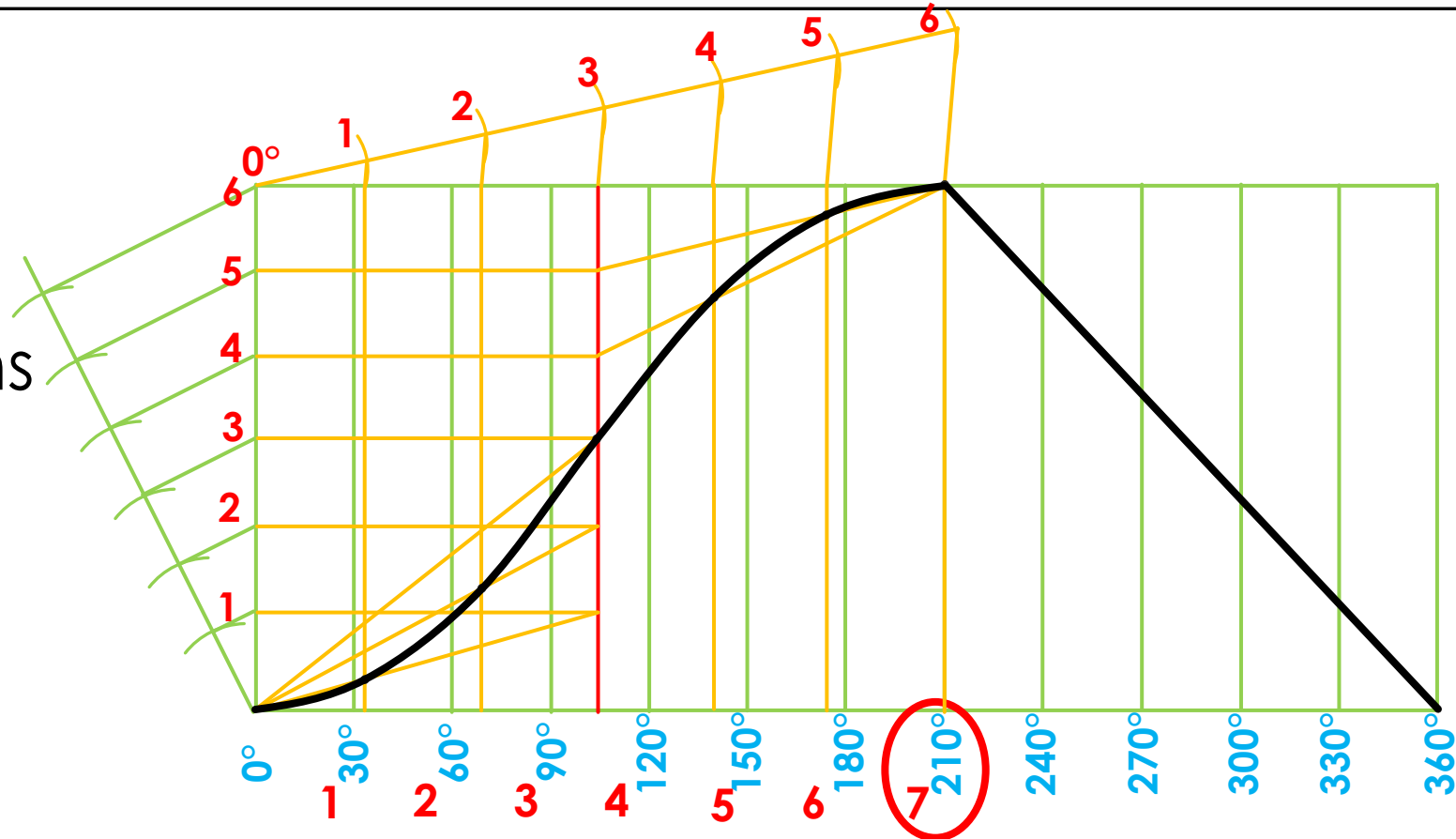
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