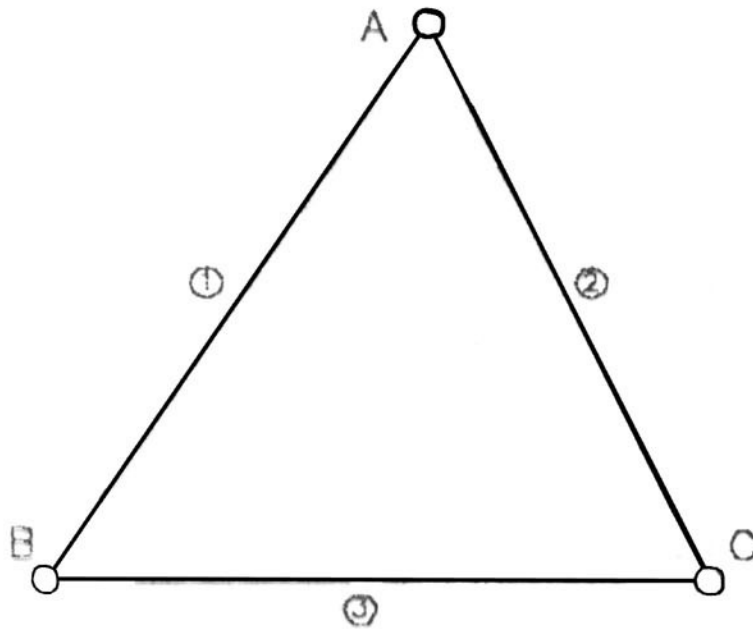
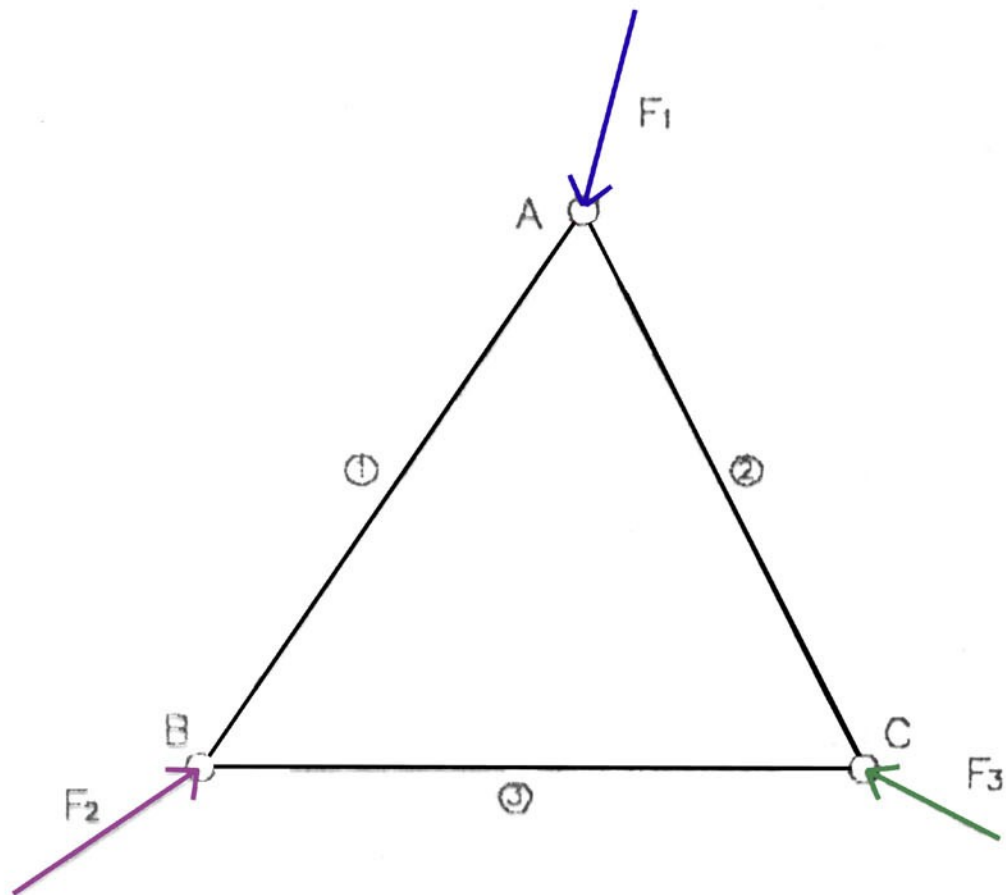
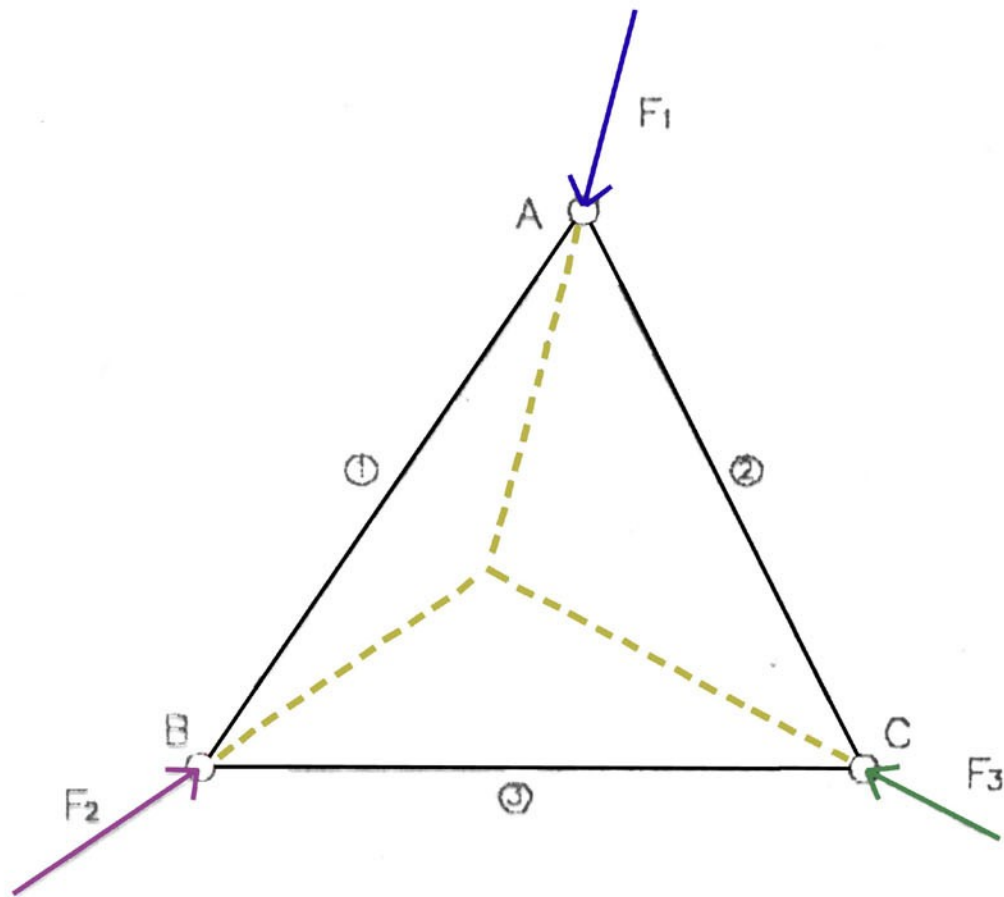


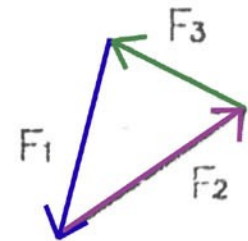


UNIDAD GEOMÉTRICA ELEMENTAL

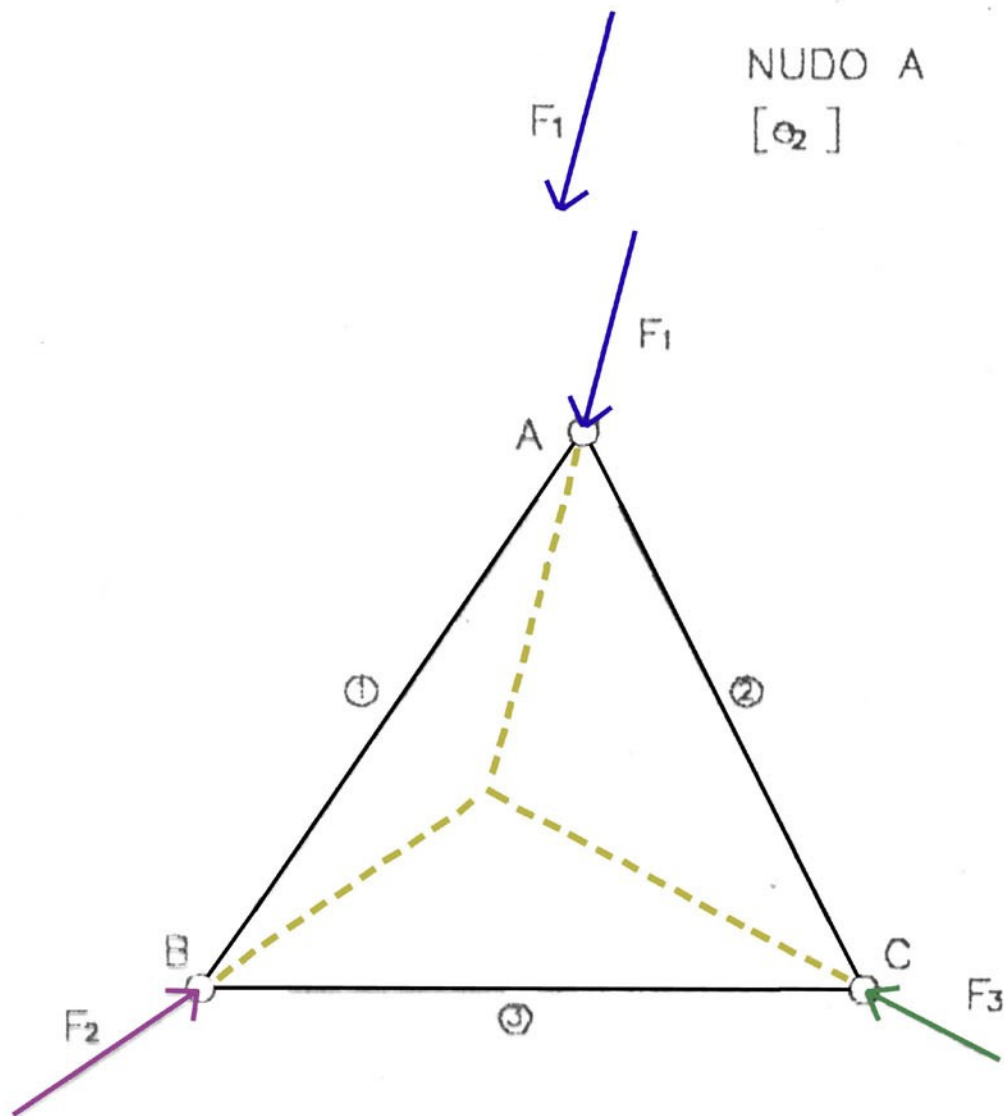




Equilibrio de conjunto

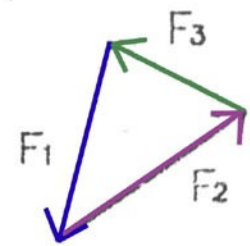


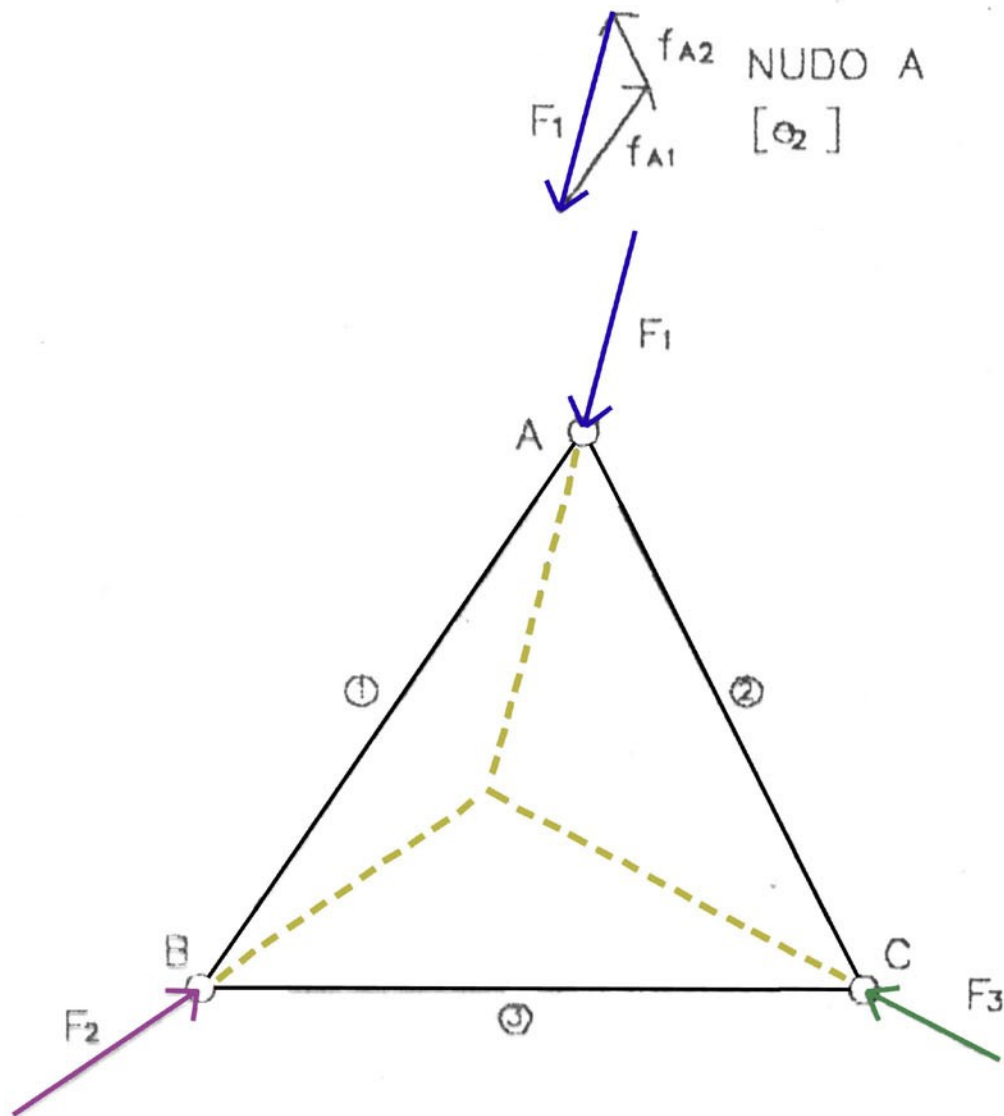
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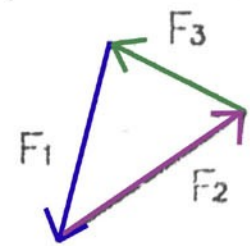
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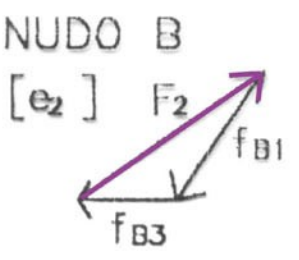
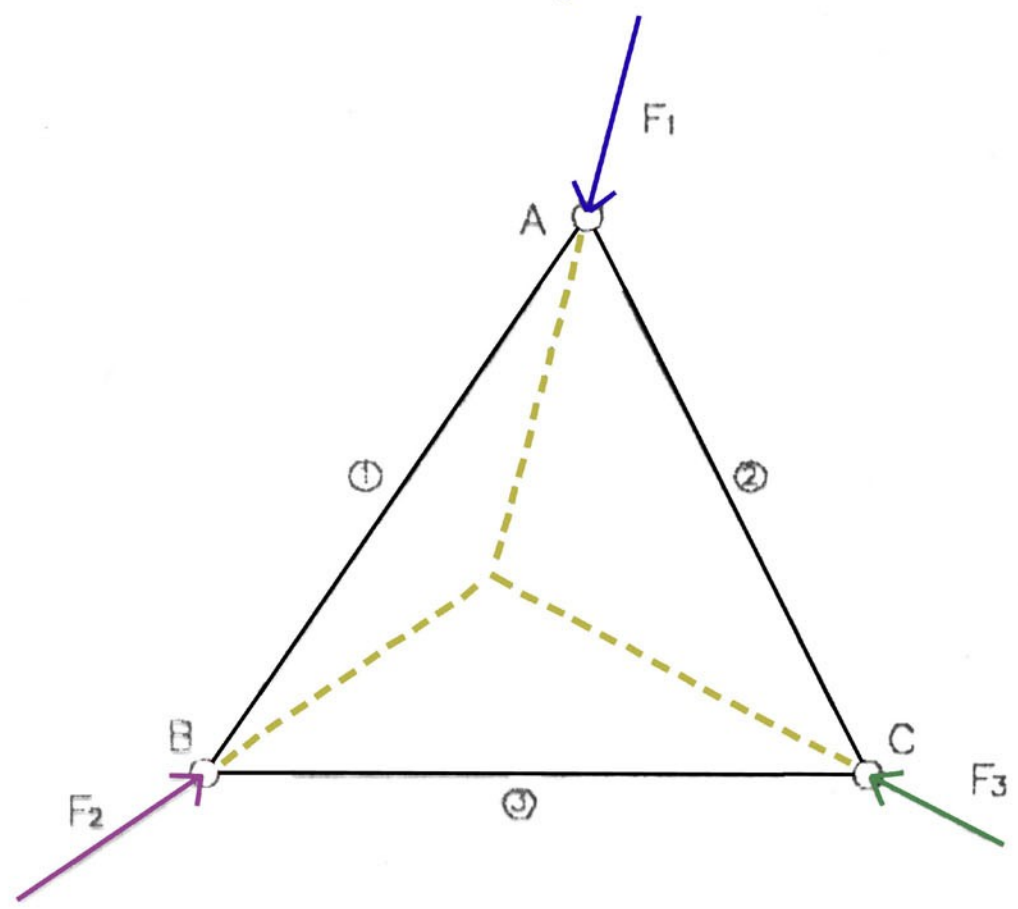
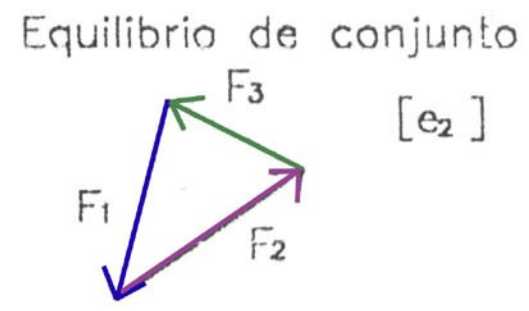
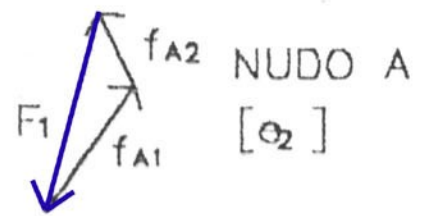
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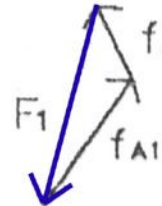


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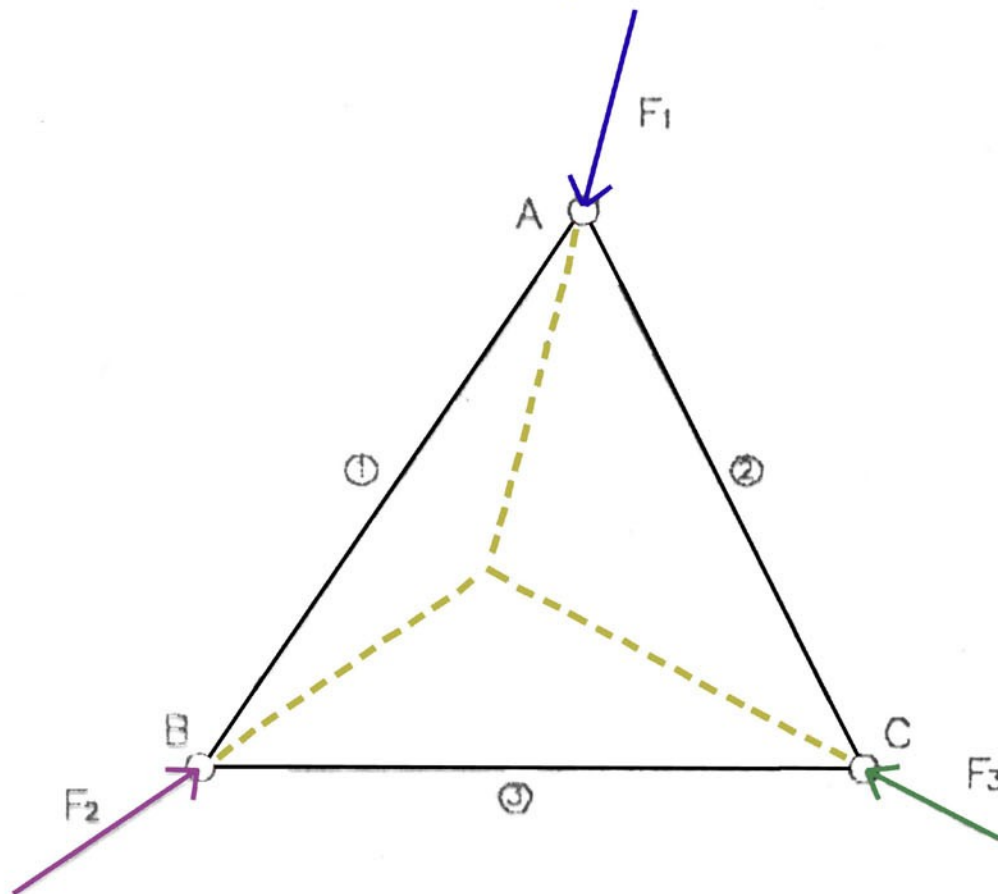
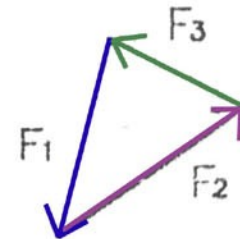




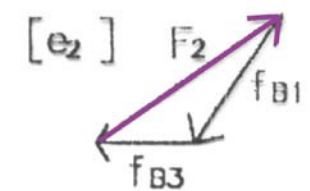
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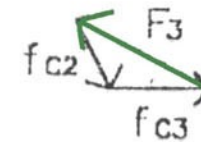
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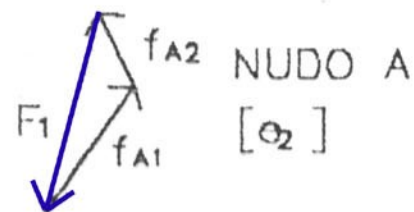
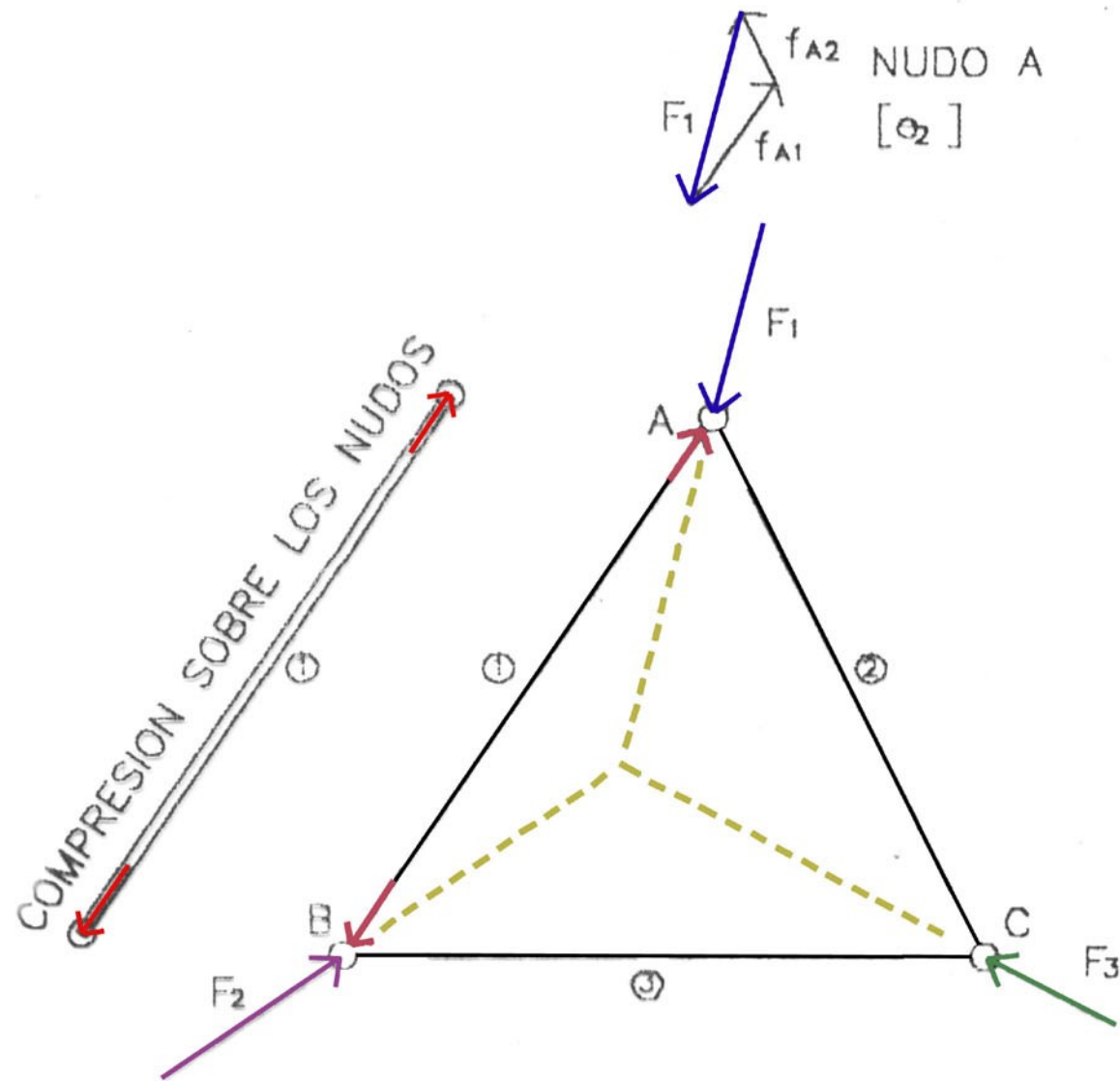


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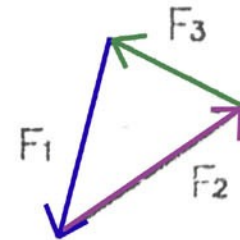
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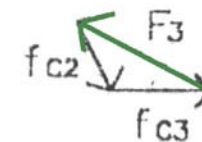
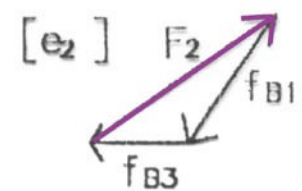


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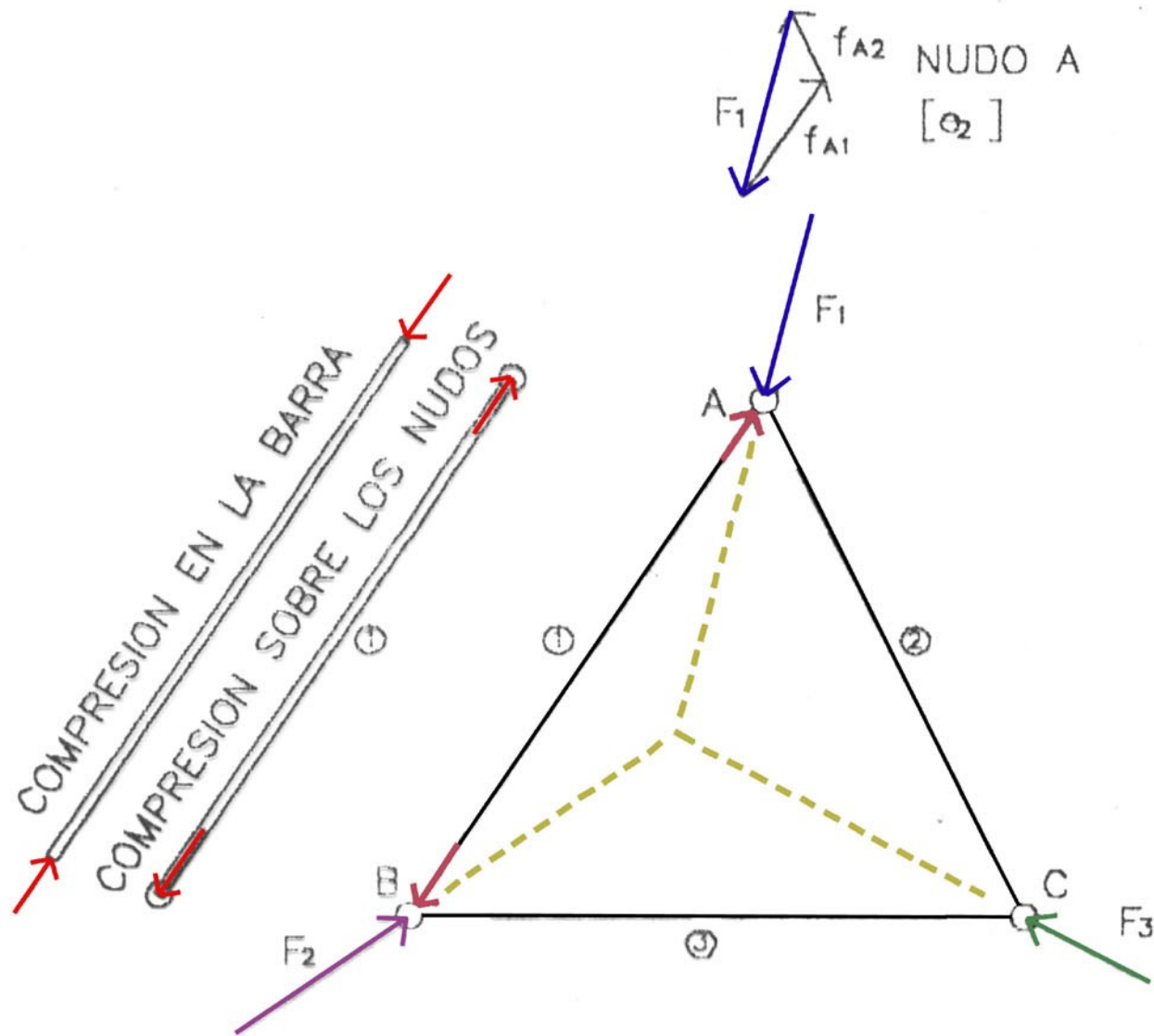
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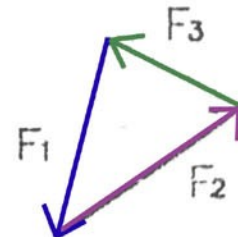


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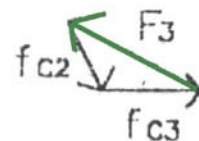


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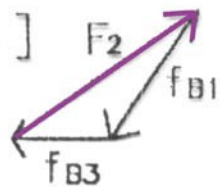
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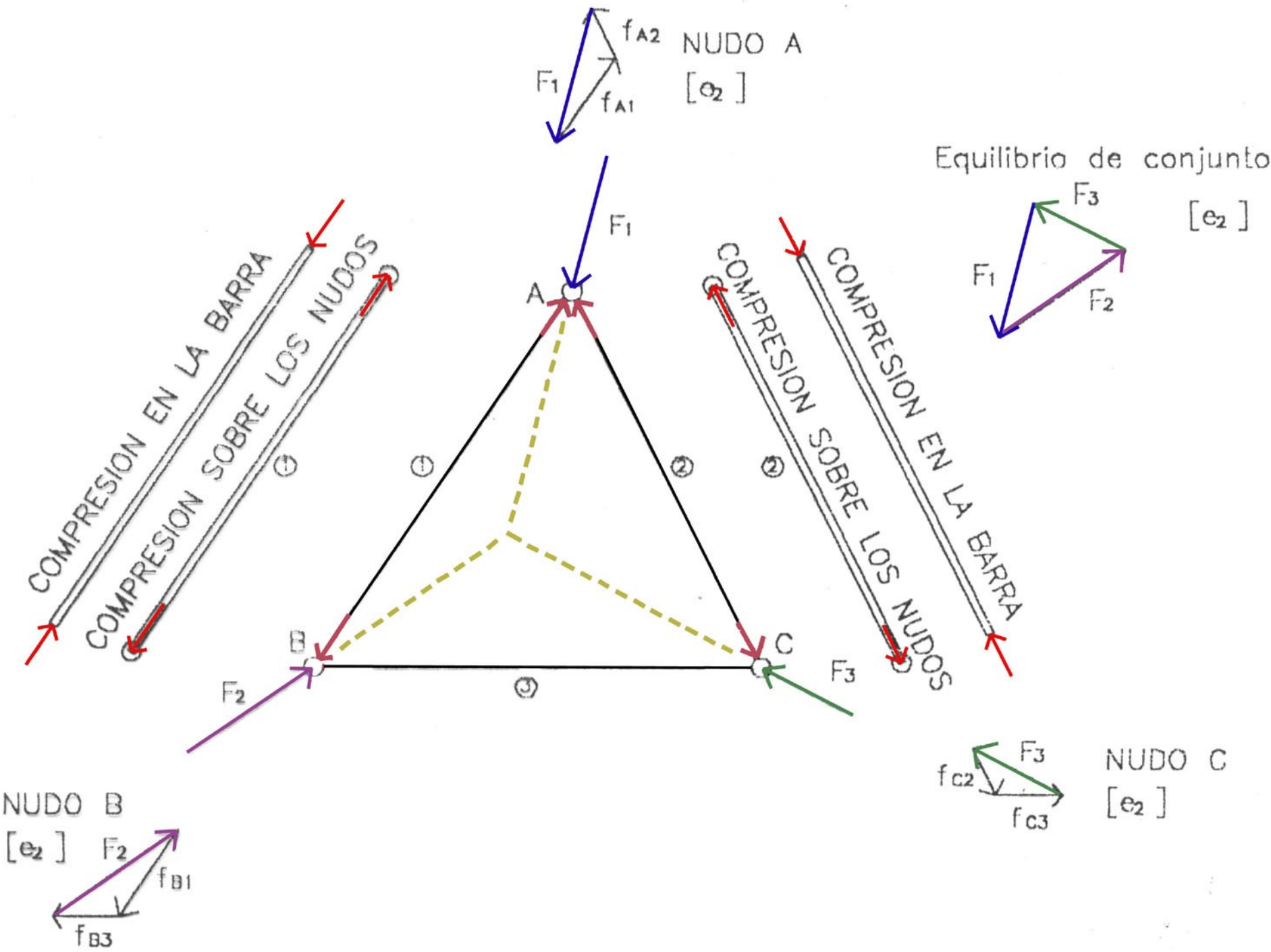


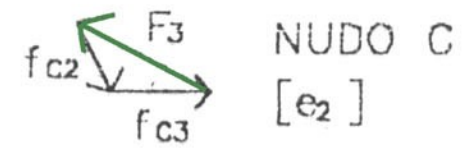
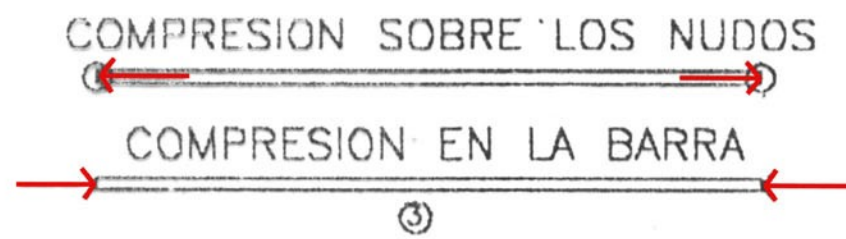
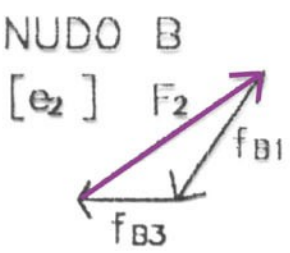
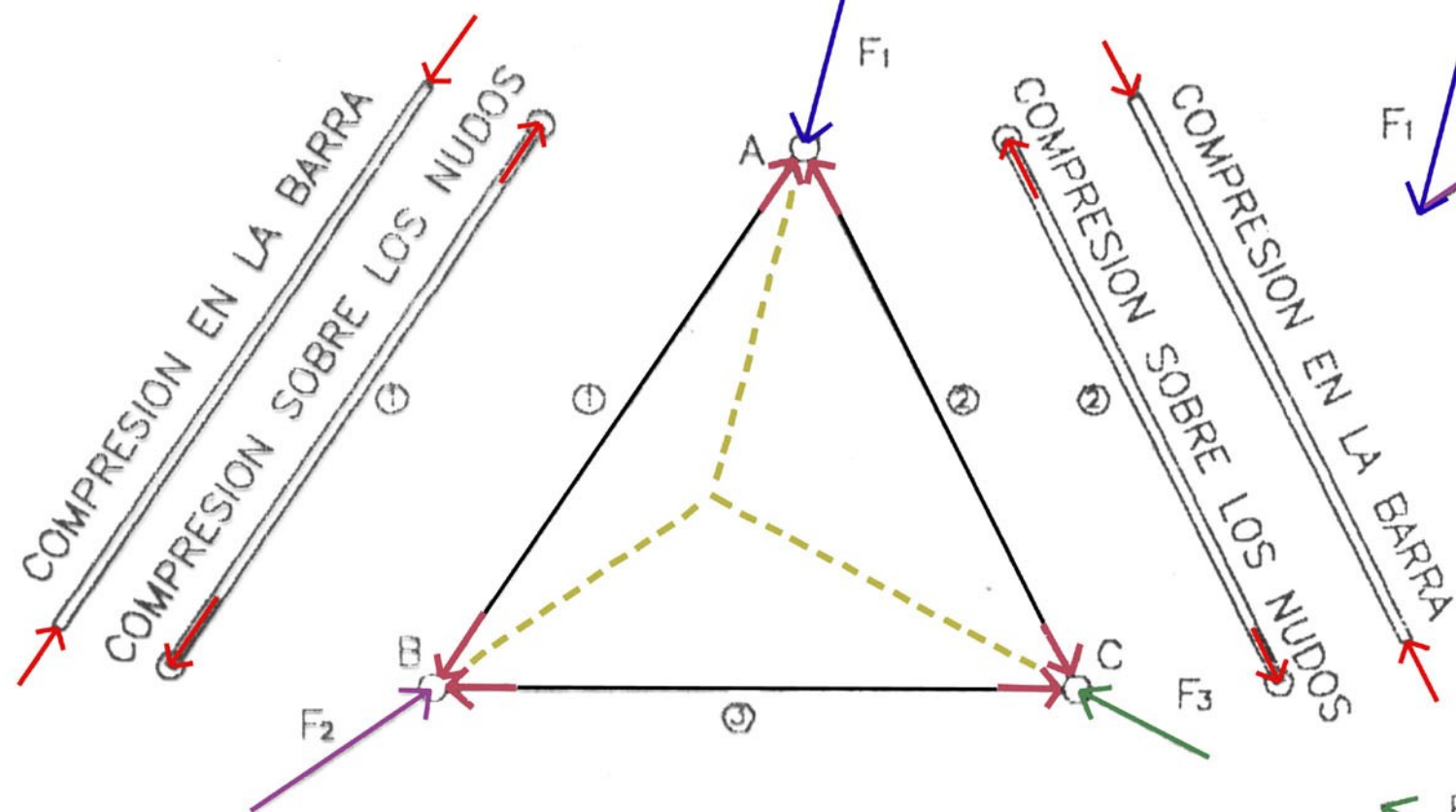
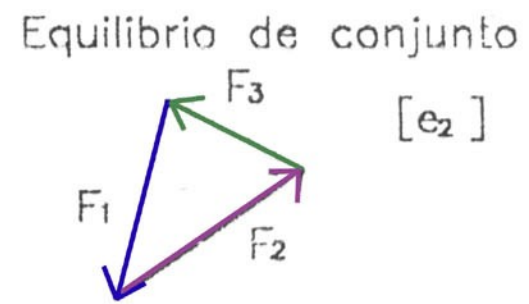
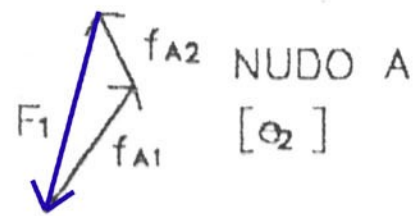
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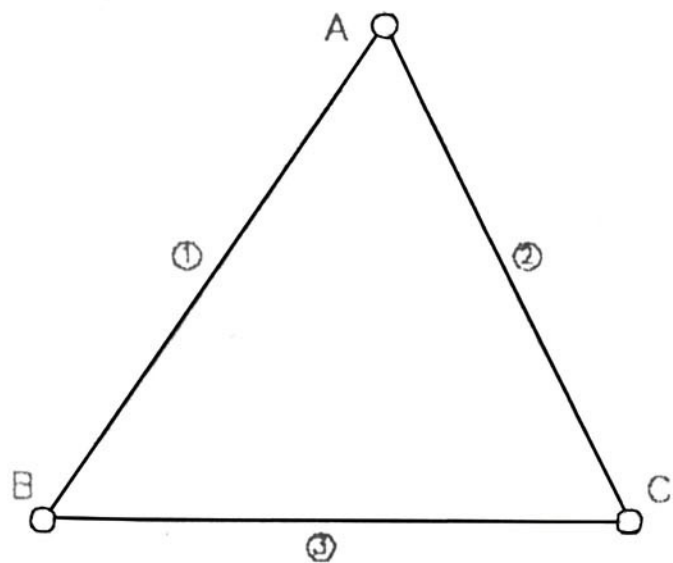


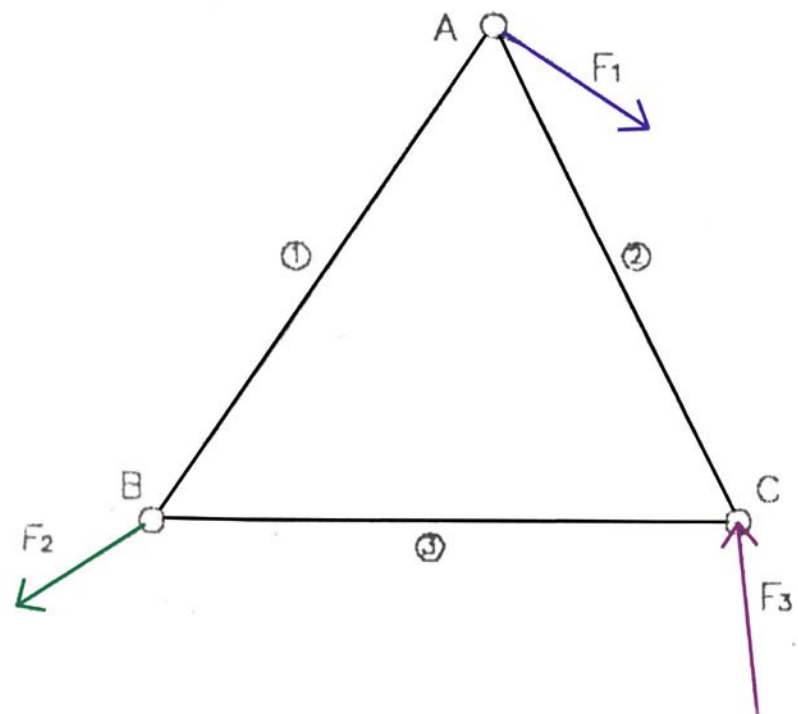
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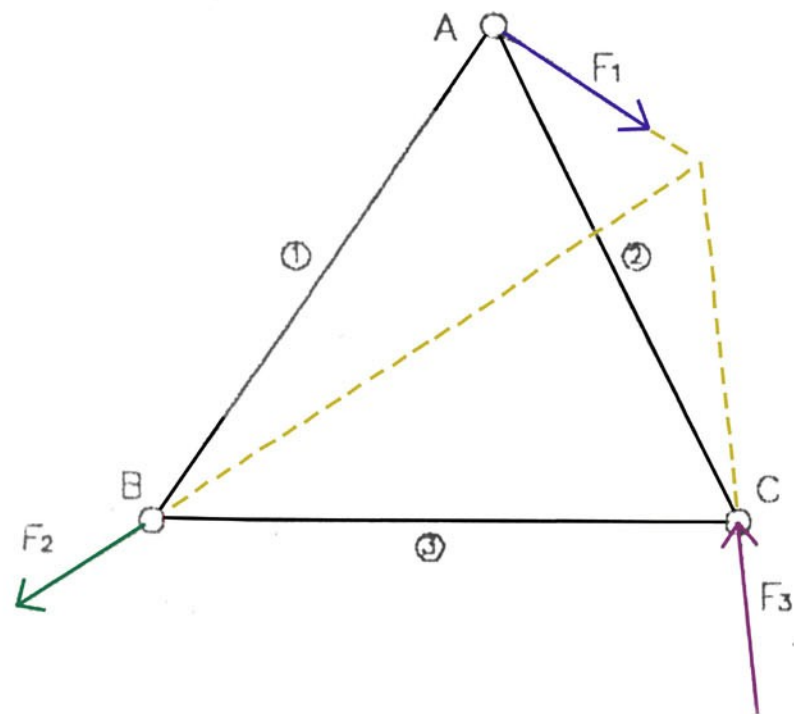




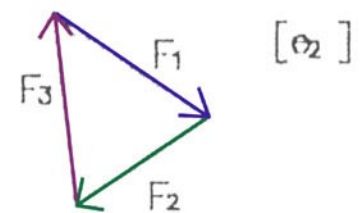


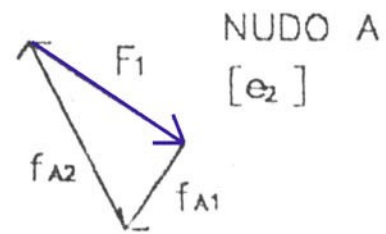




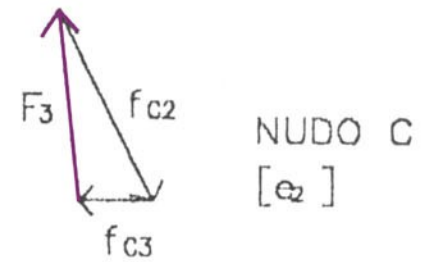
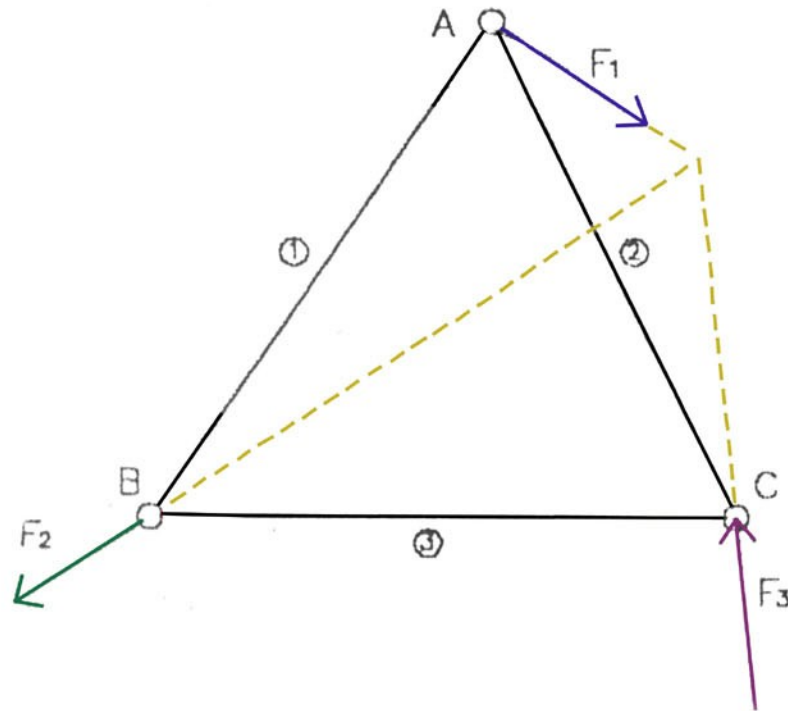
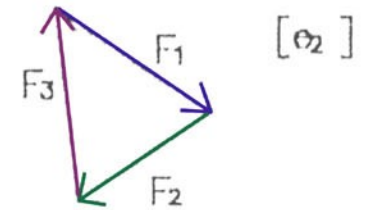


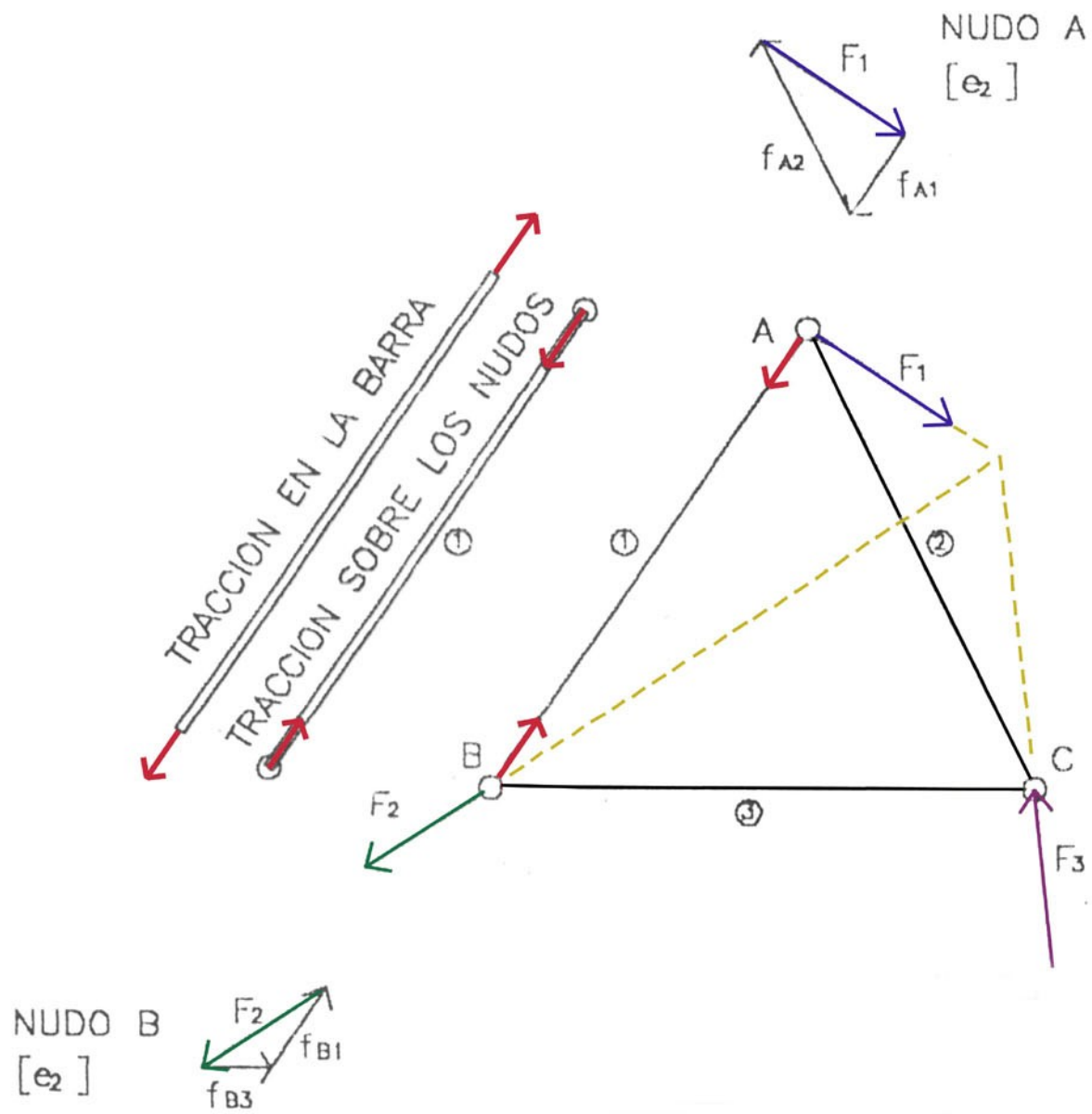
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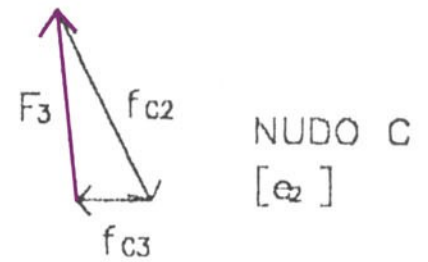
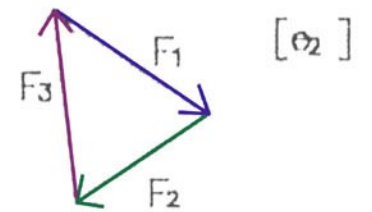


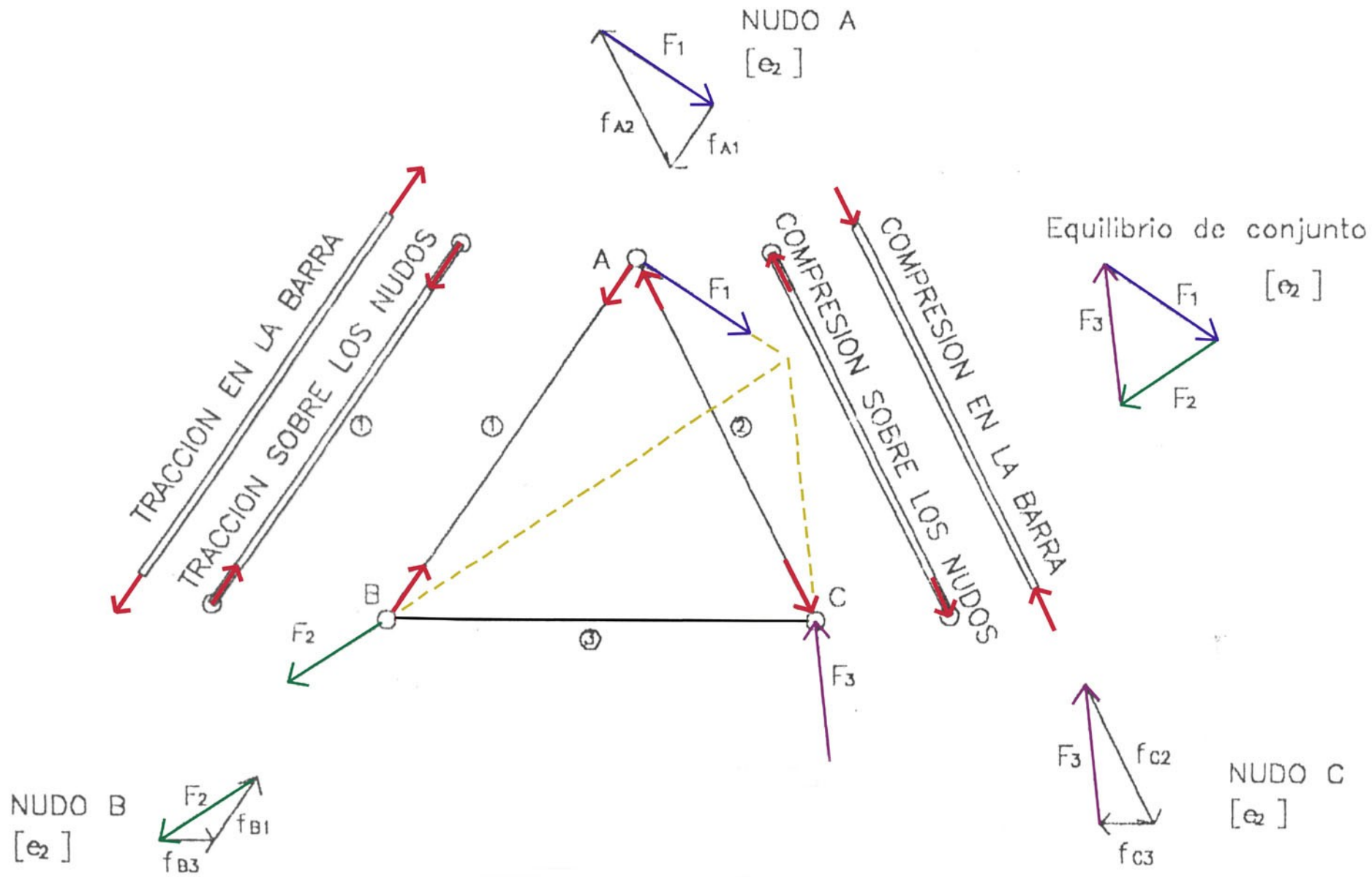
Equilibrio de conjunto

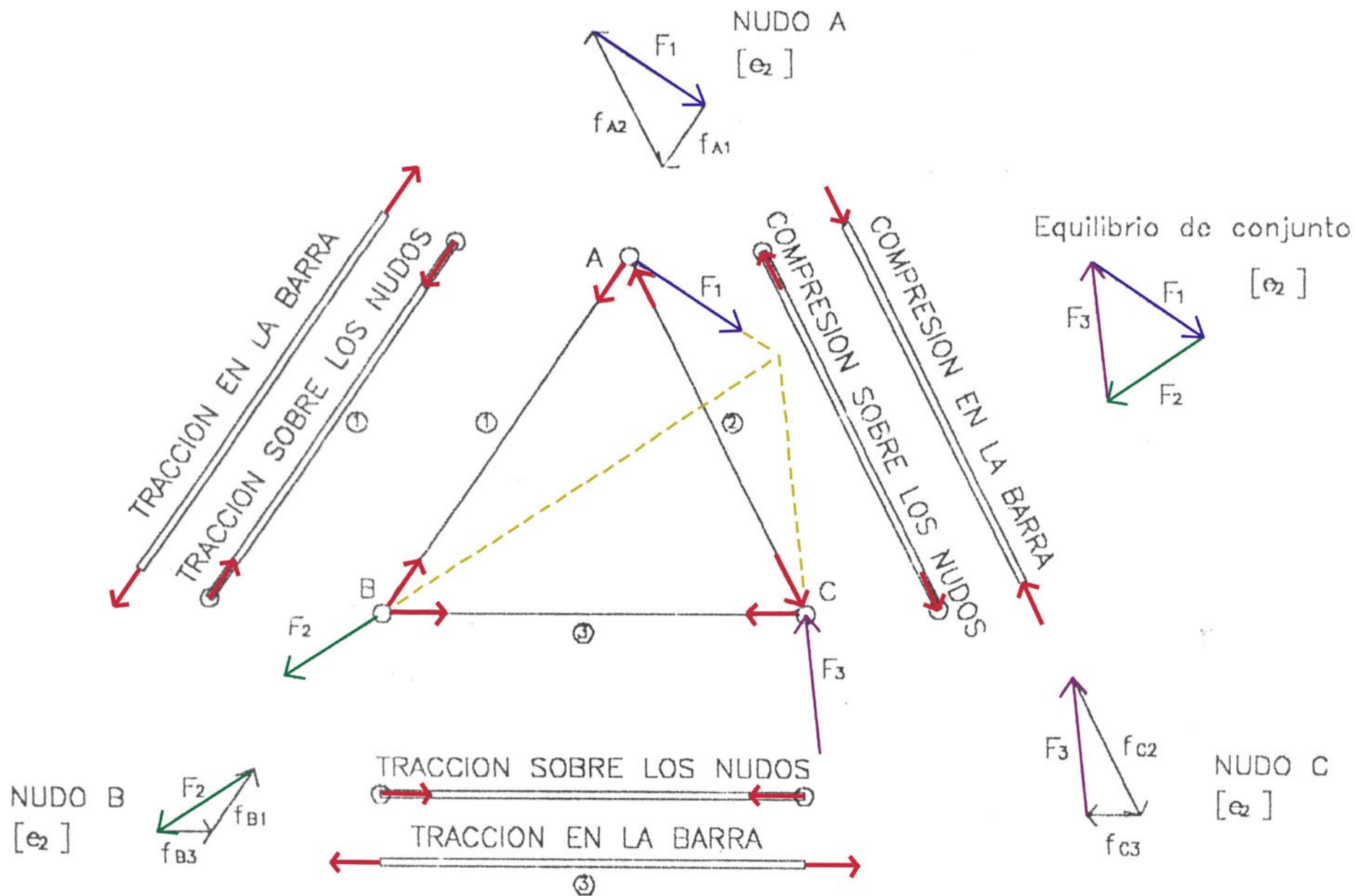


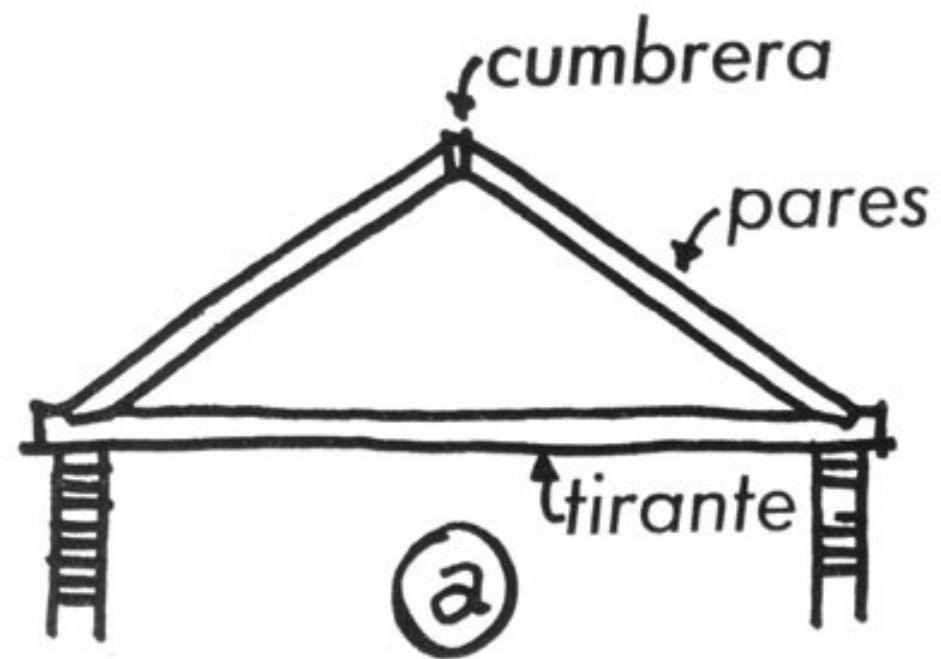


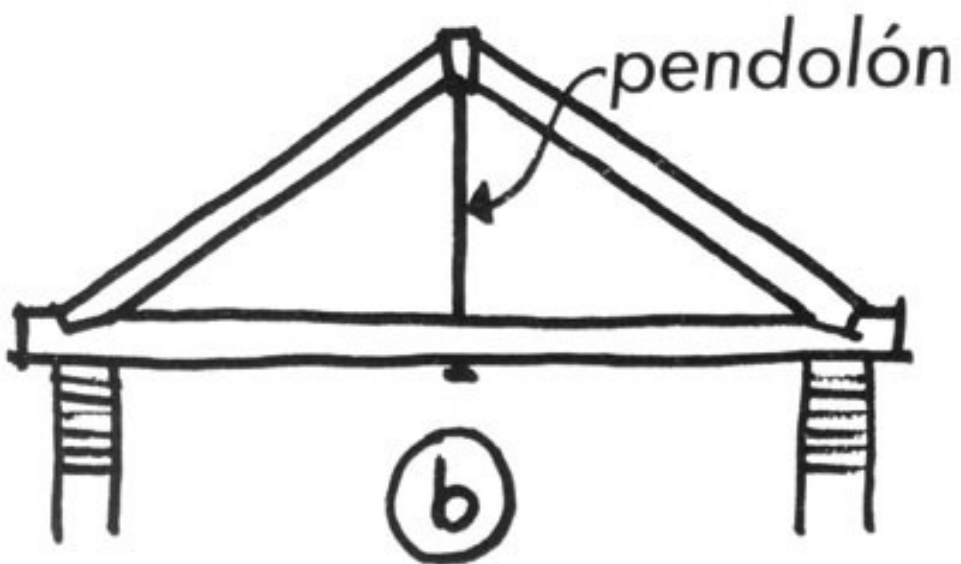
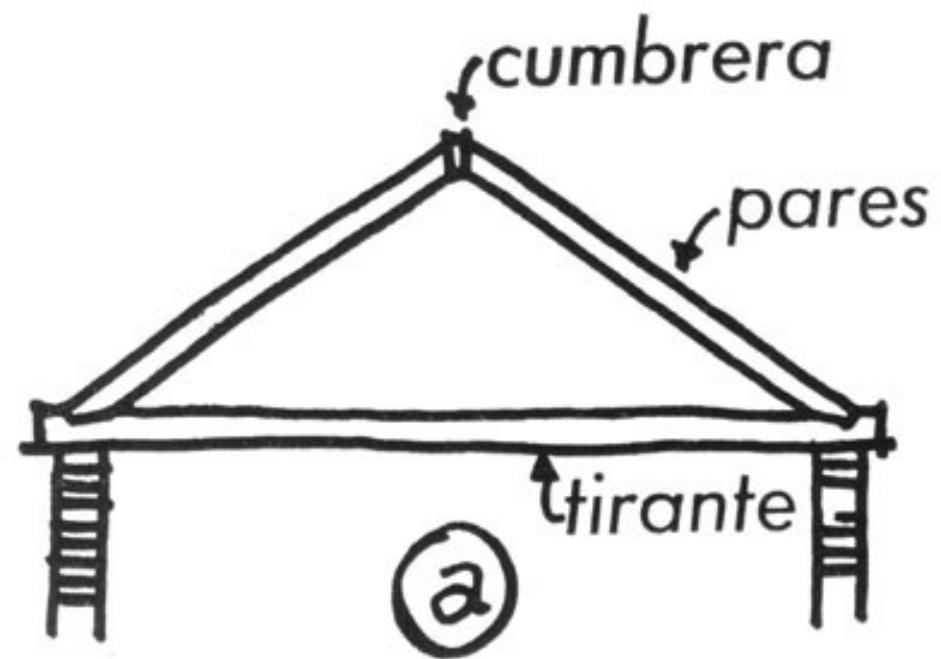
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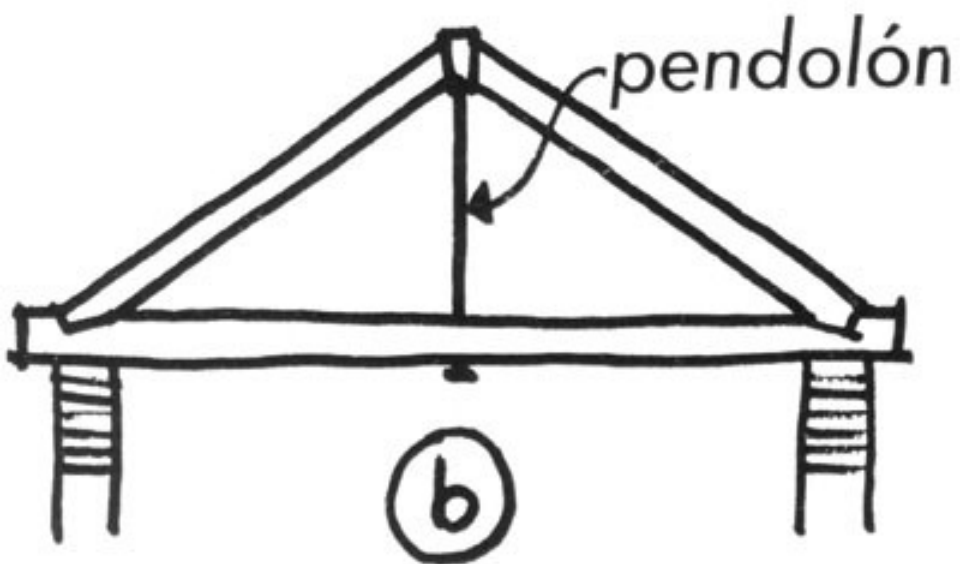
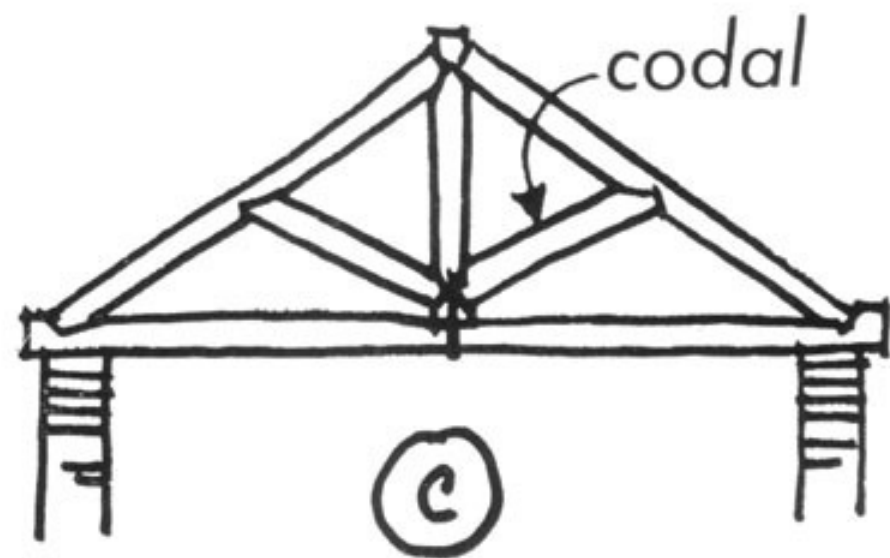
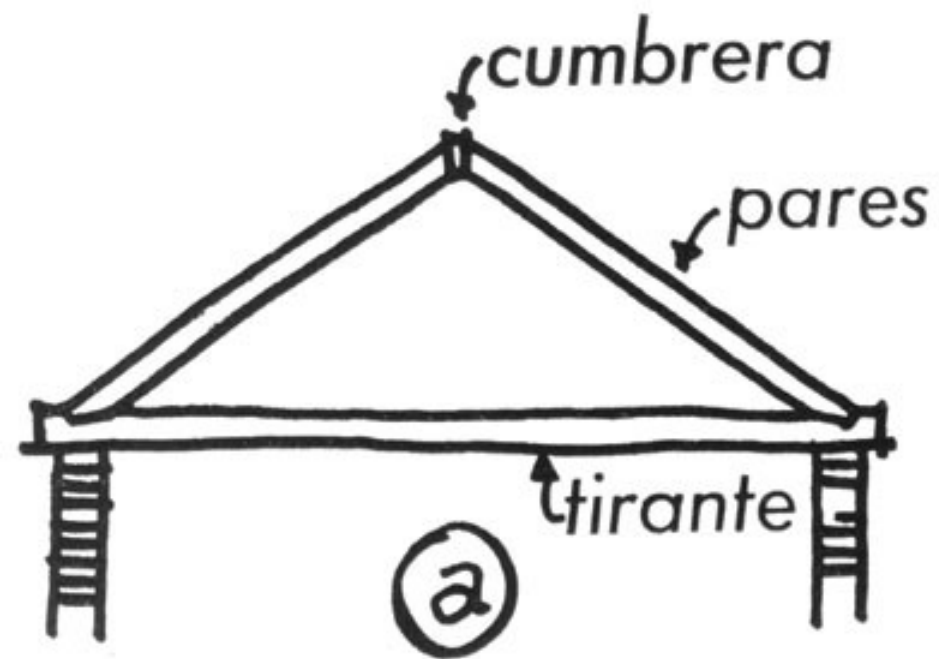


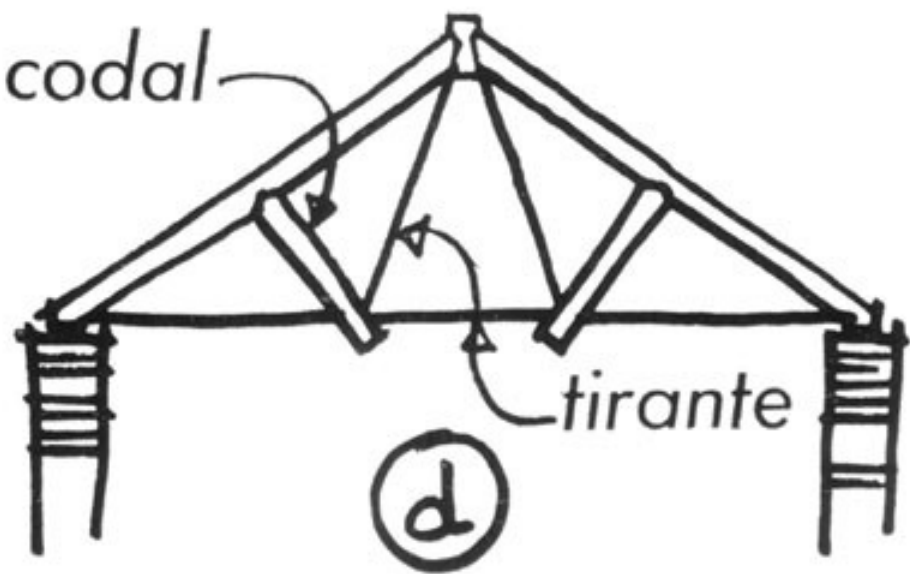
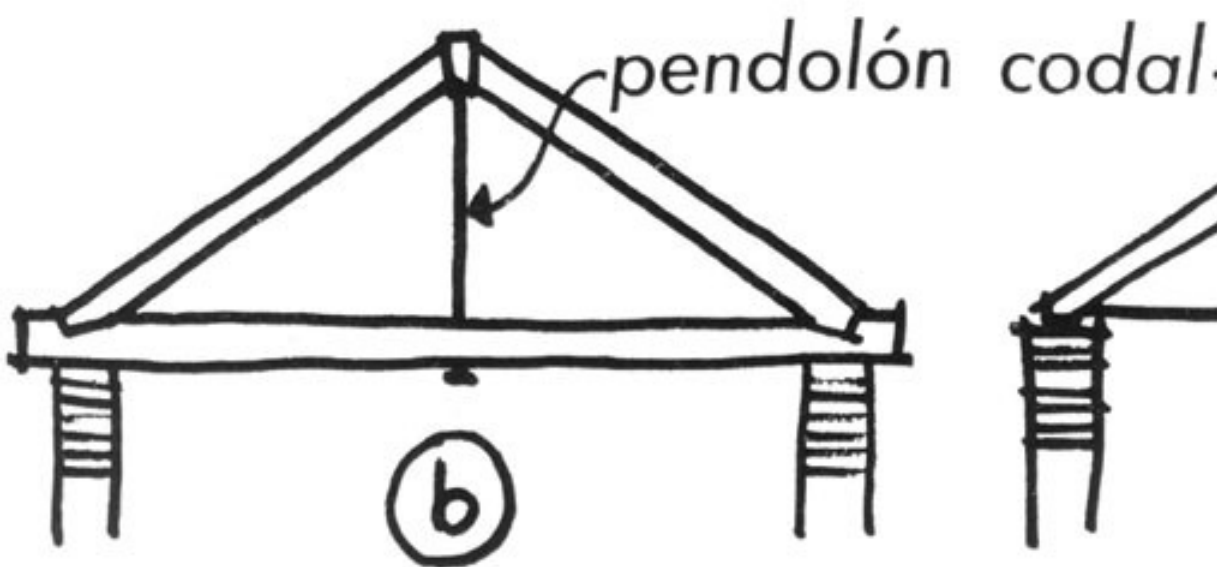
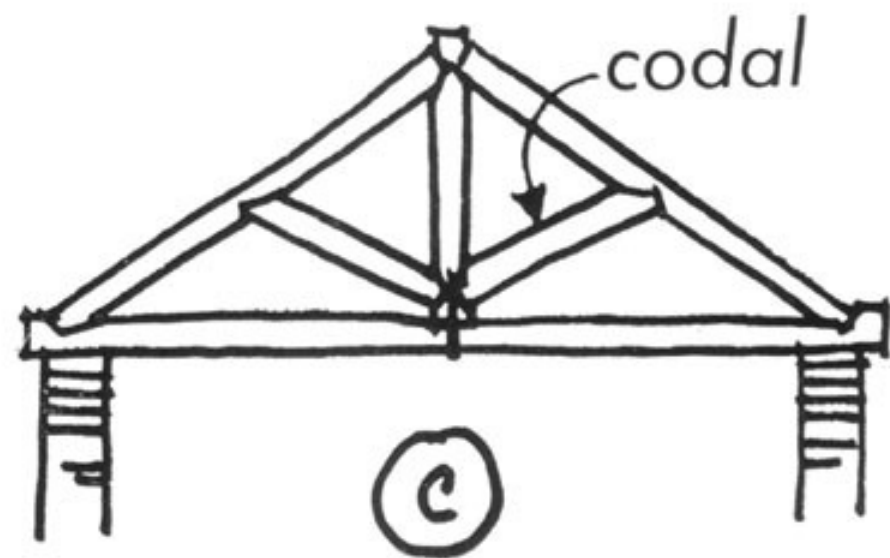
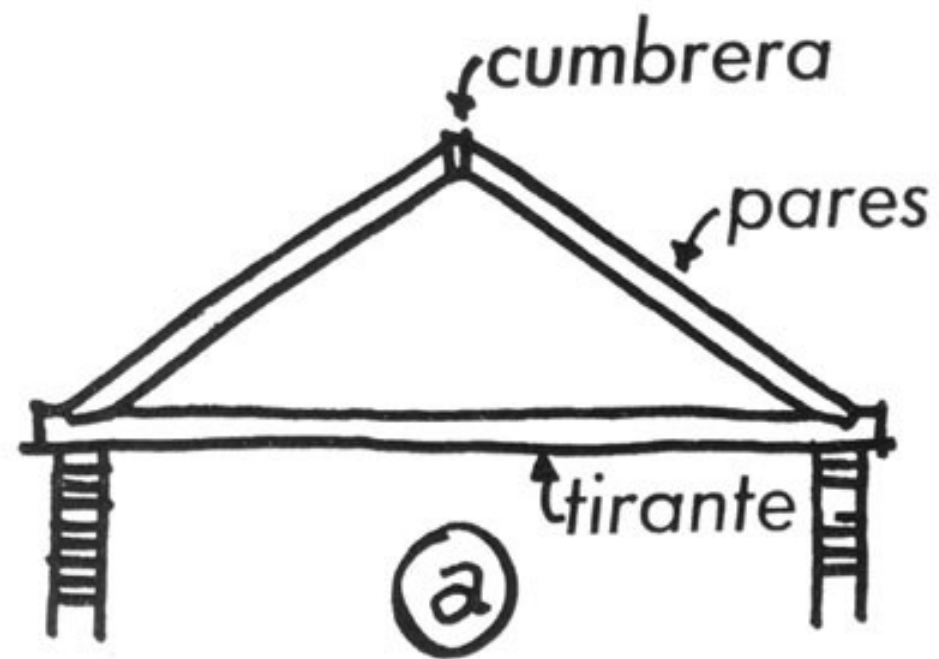












MÉTODOS DE ANÁLISIS DE LOS ESFUERZOS INTERNOS

MÉTODOS NODALES

MÉTODO DE LOS NUDOS

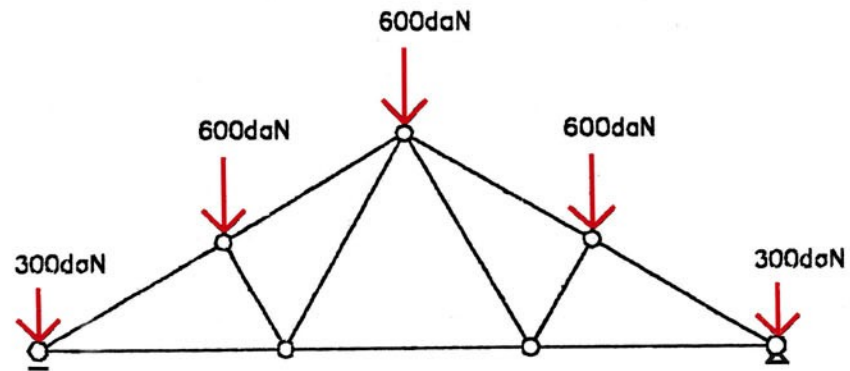
MÉTODO DE CREMONA

MÉTODOS DE LAS SECCIONES

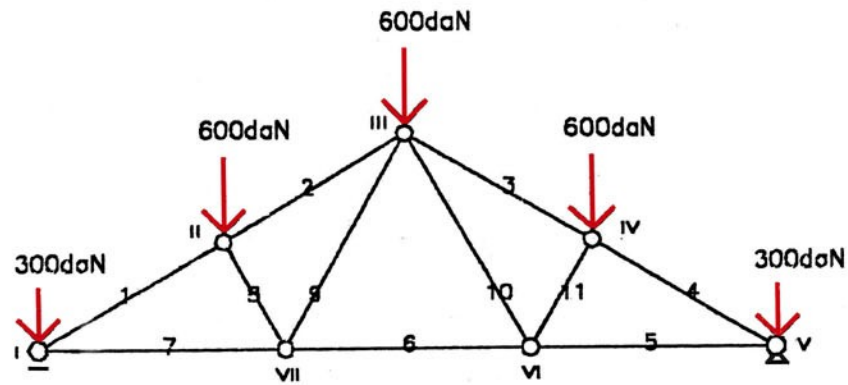
MÉTODO DE CULMANN

MÉTODO DE RITTER

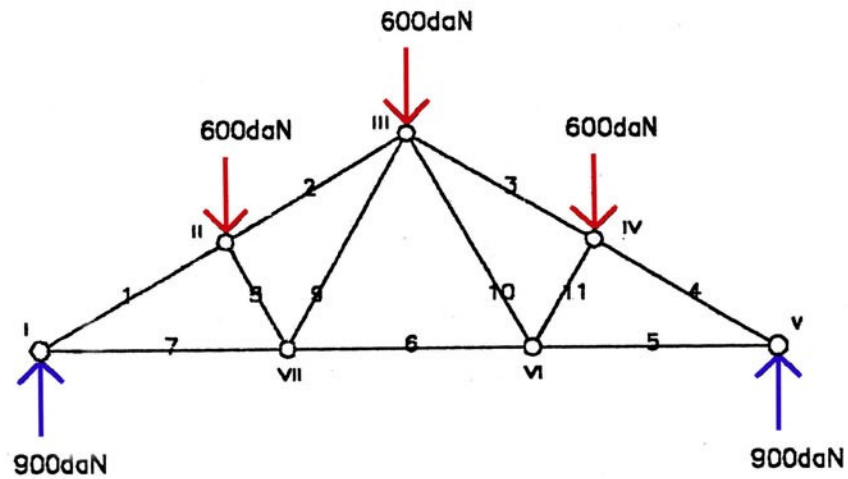
MÉTODO DE LOS NUDOS



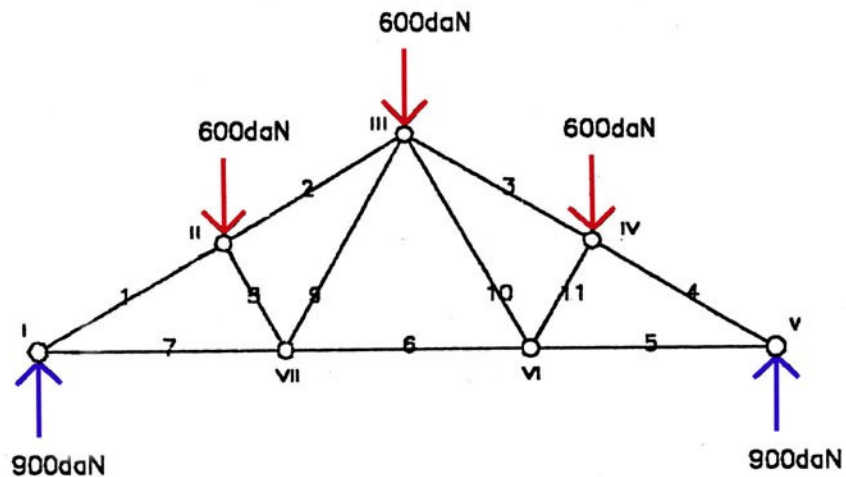
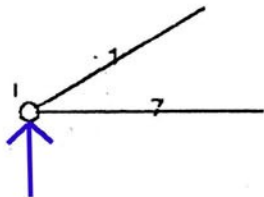
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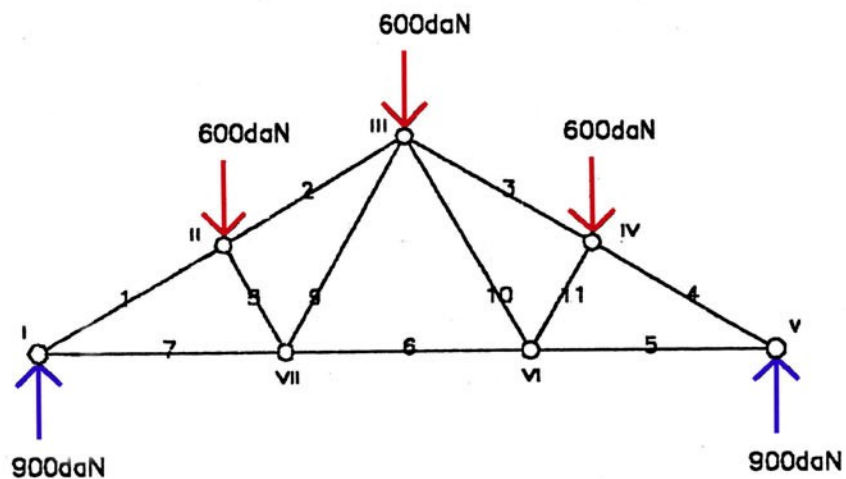
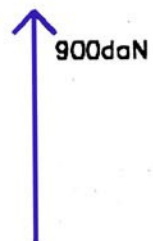
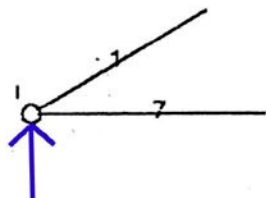
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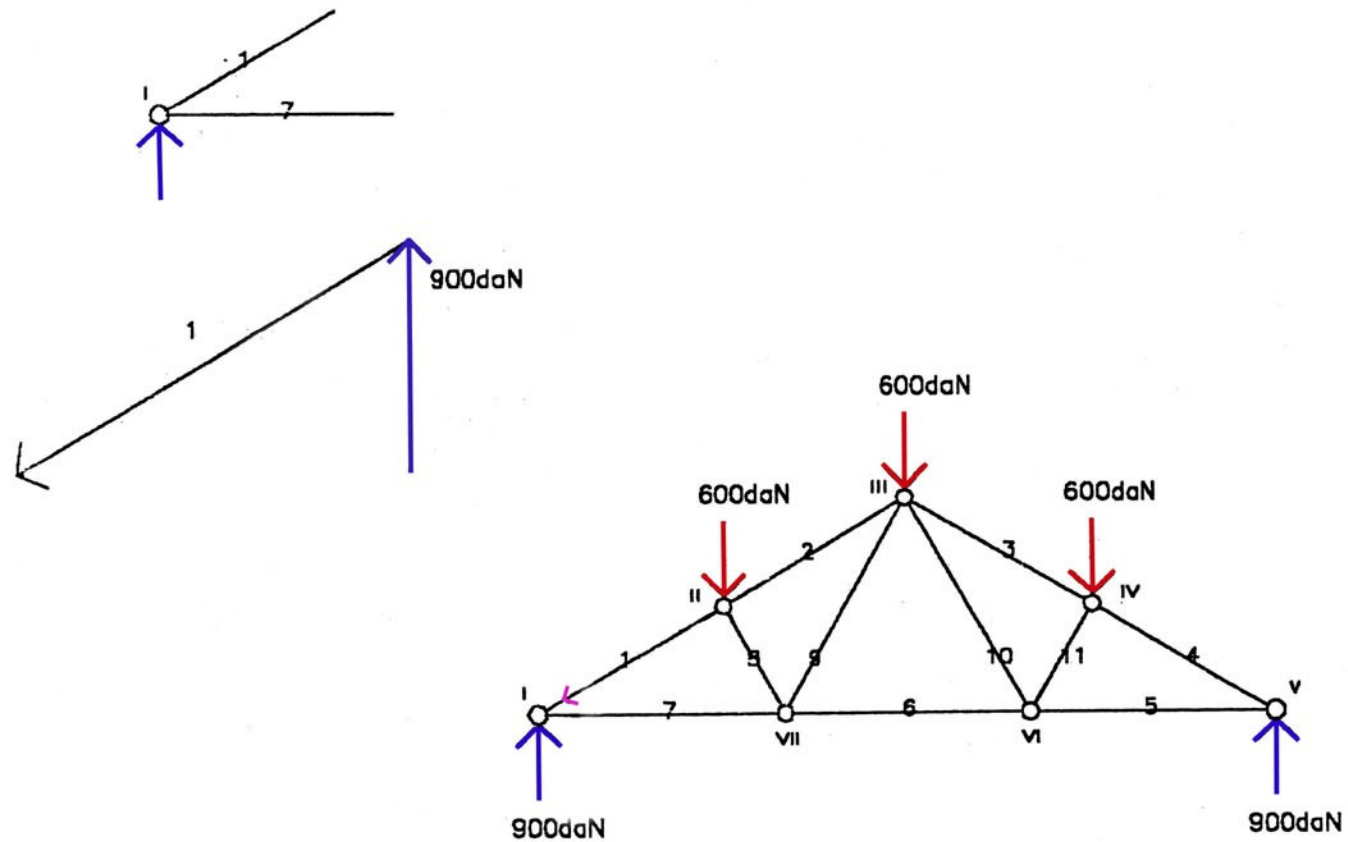
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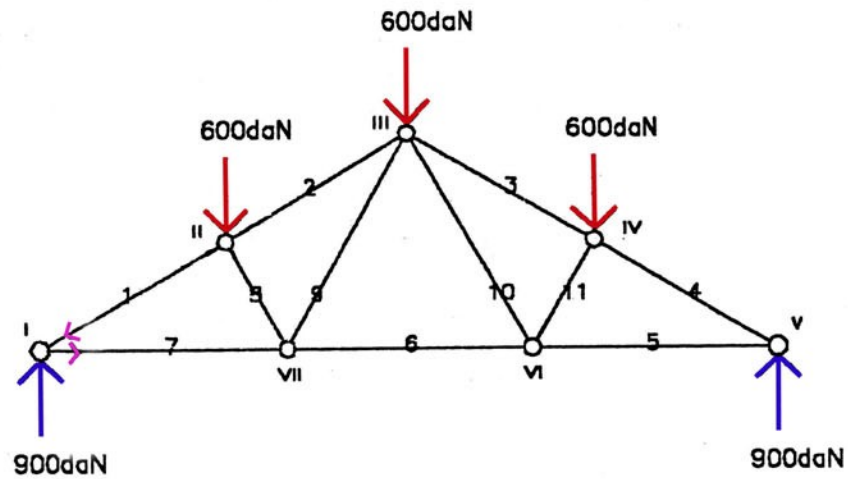
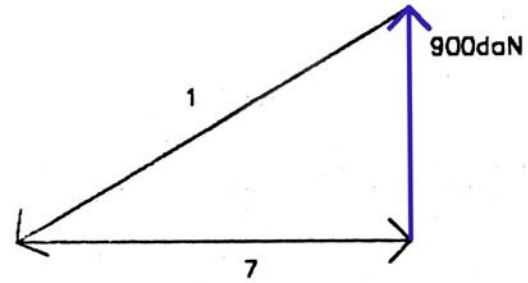
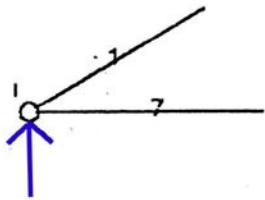
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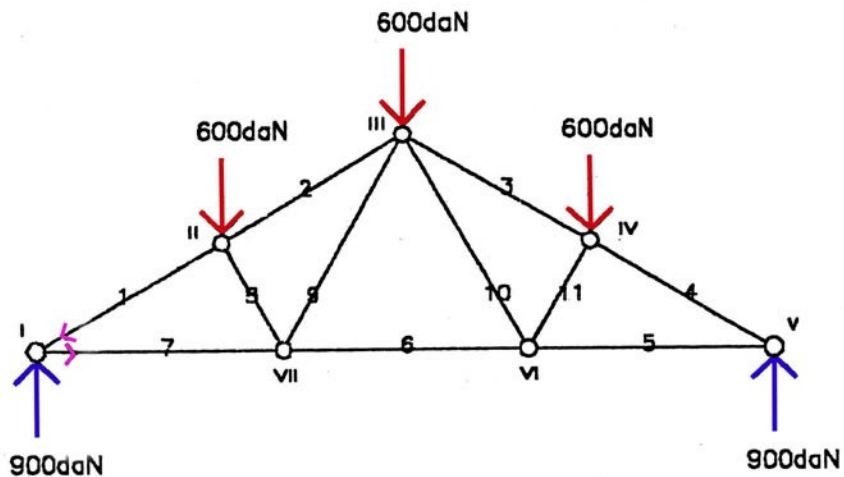
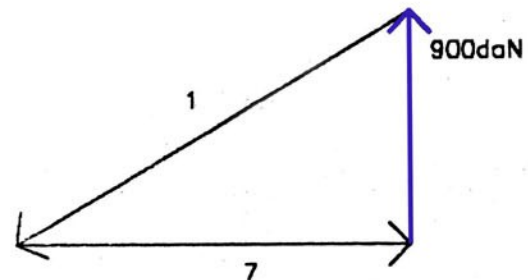
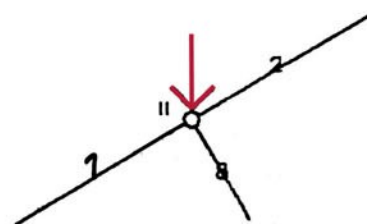
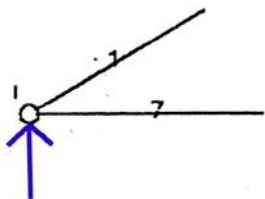
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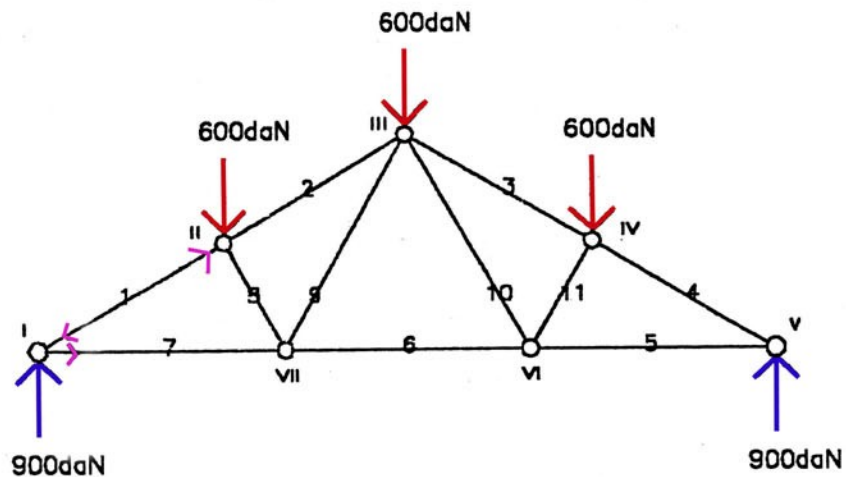
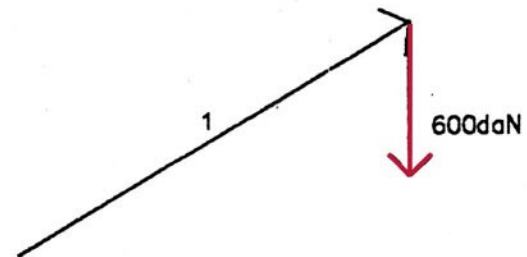
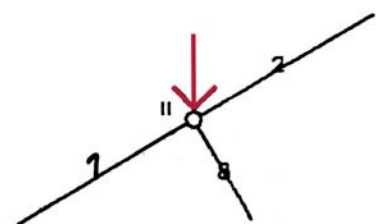
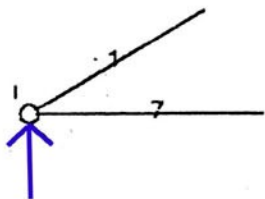
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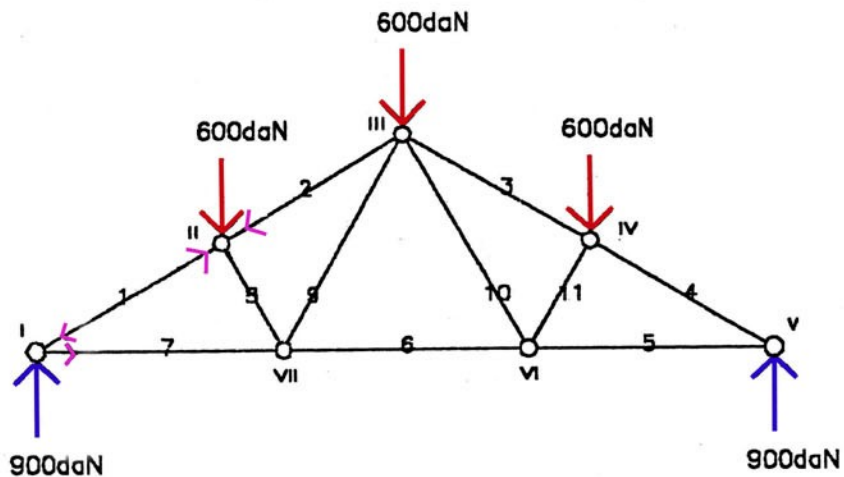
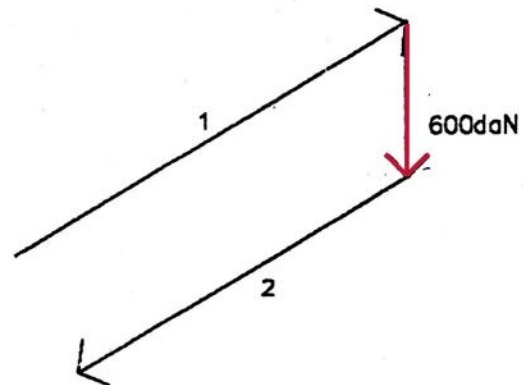
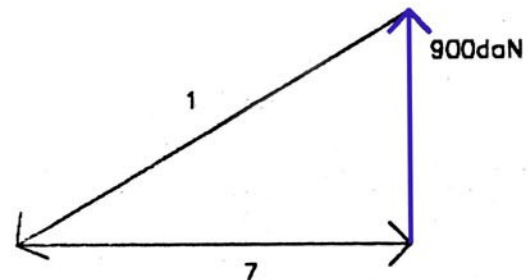
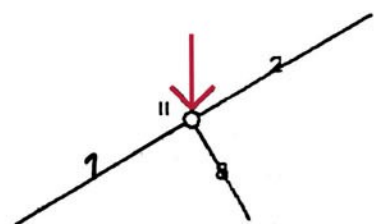
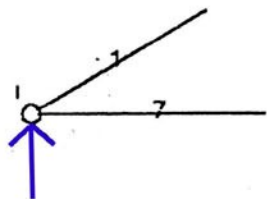
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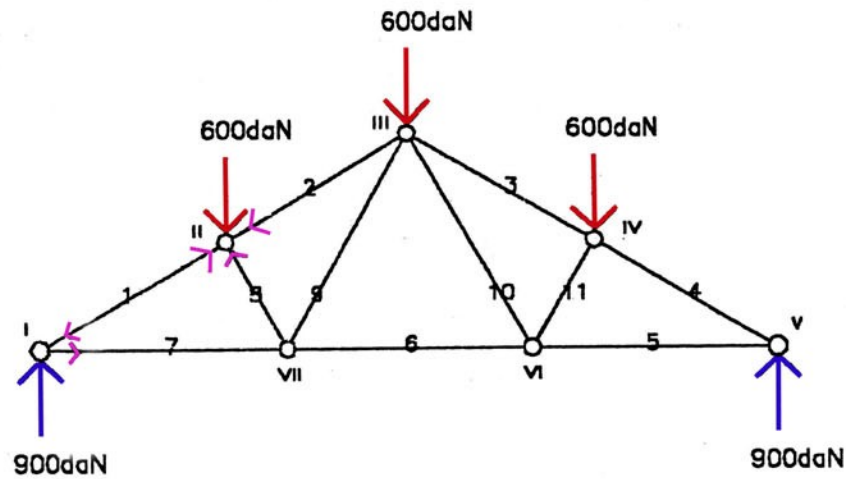
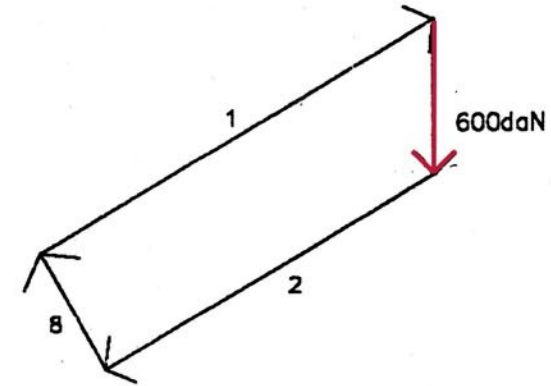
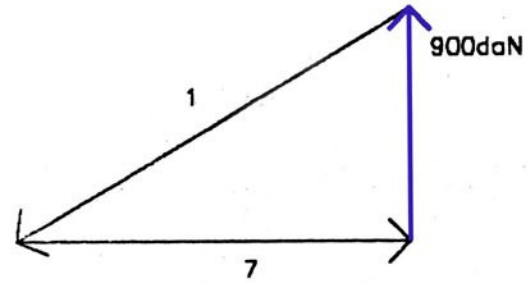
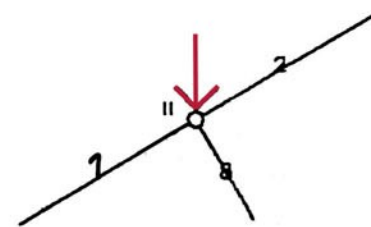
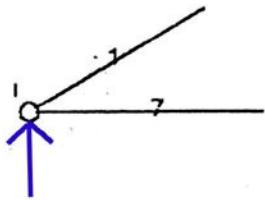
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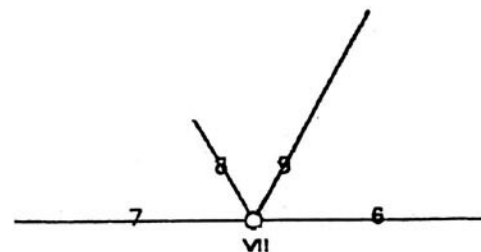
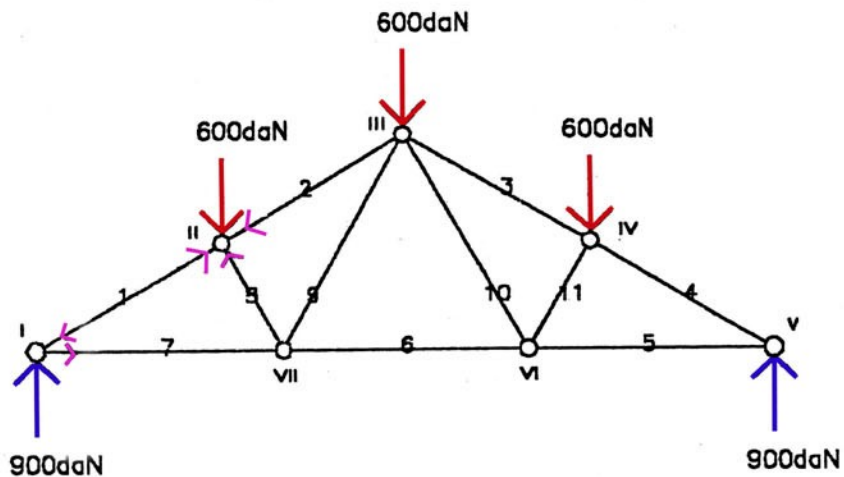
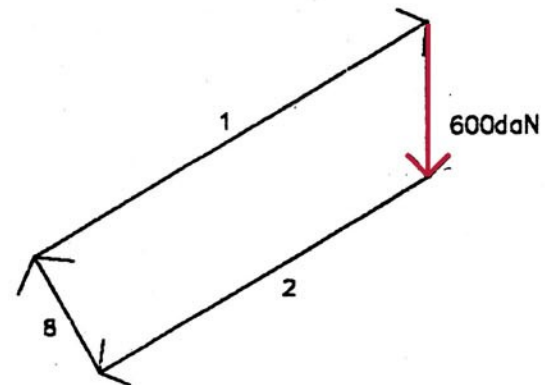
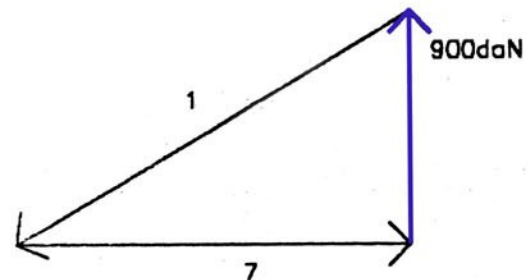
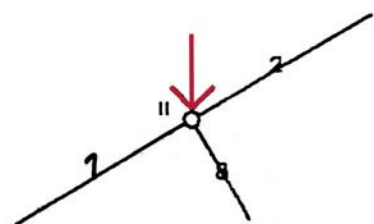
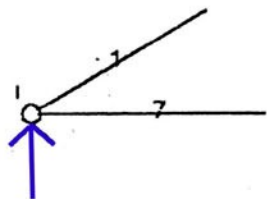
MÉTODO DE LOS NUDOS



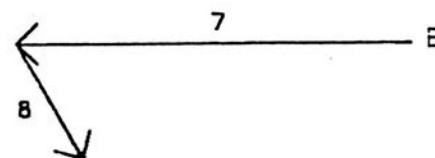
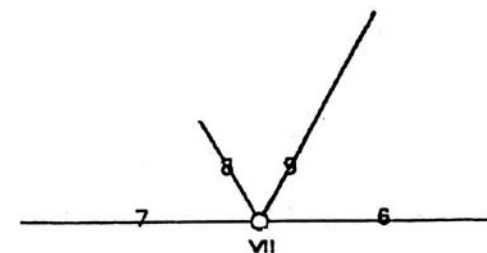
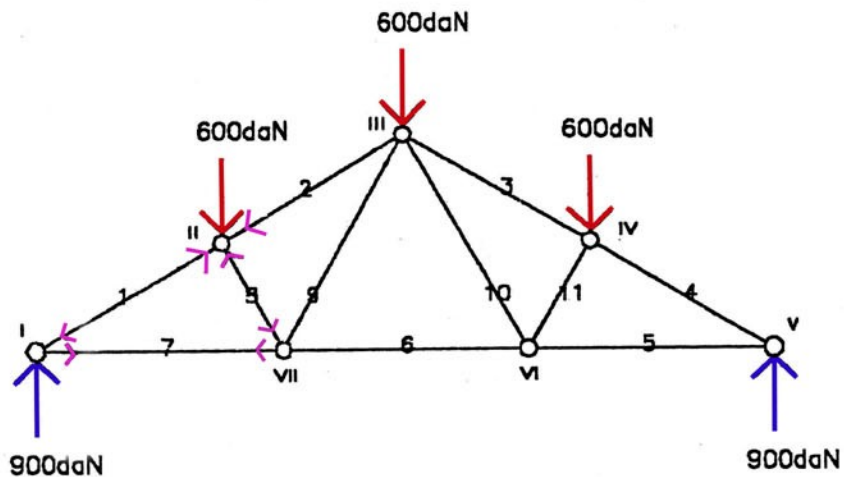
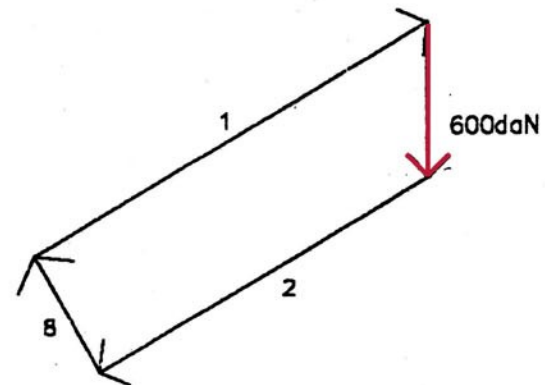
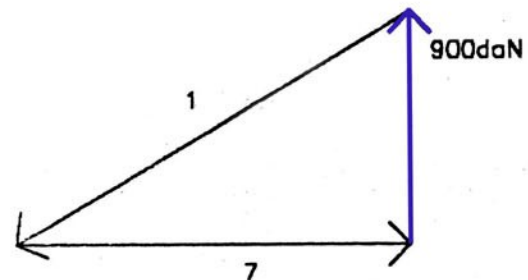
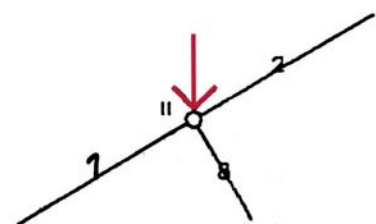
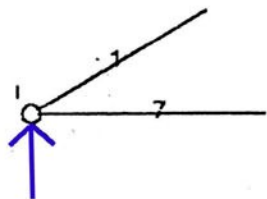
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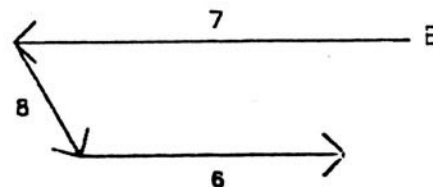
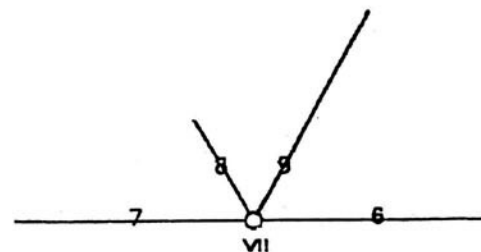
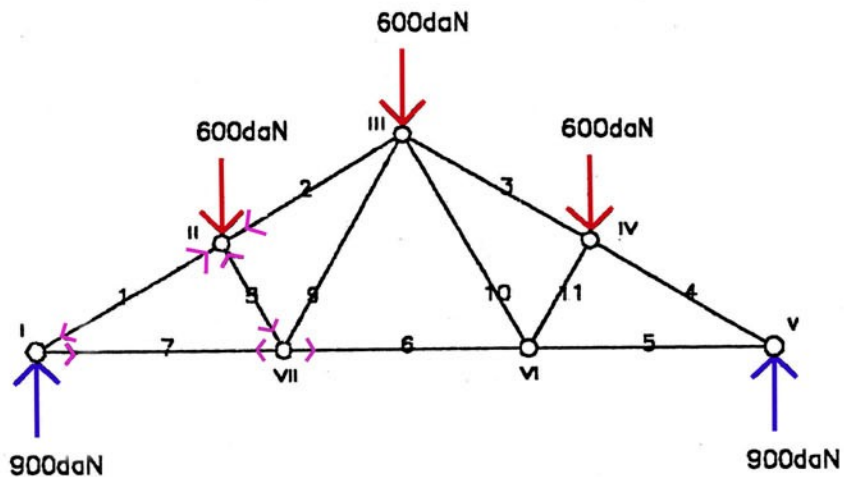
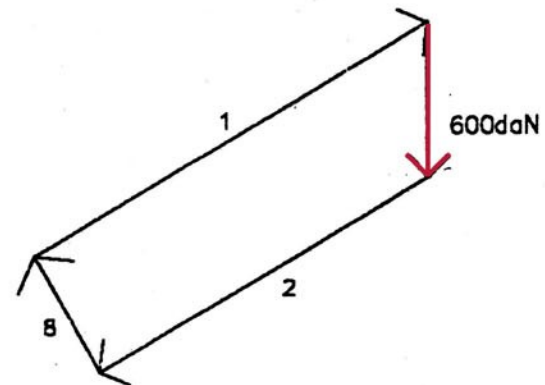
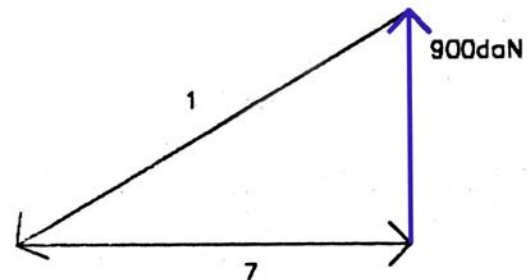
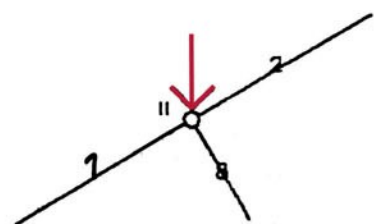
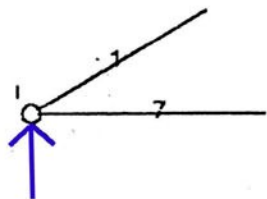
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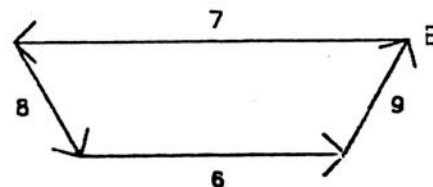
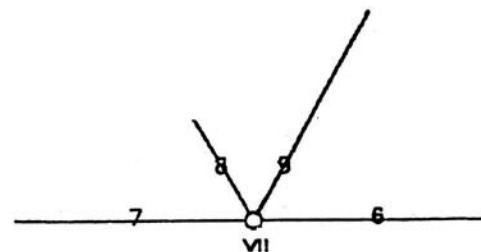
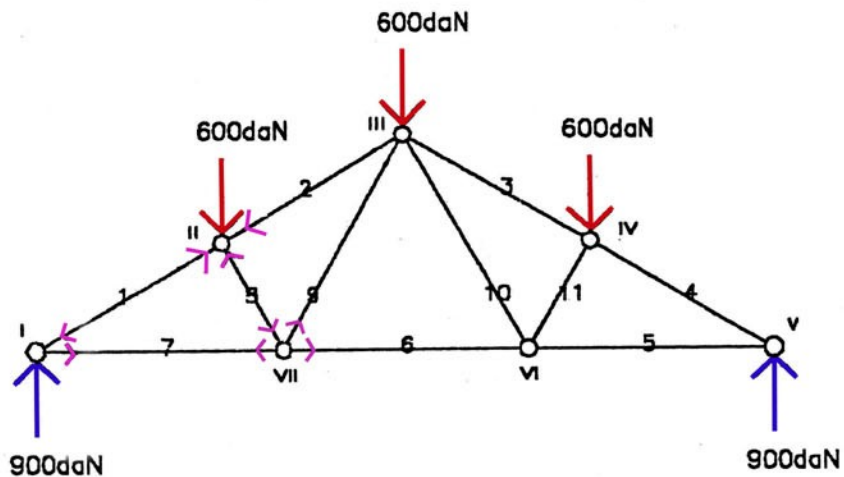
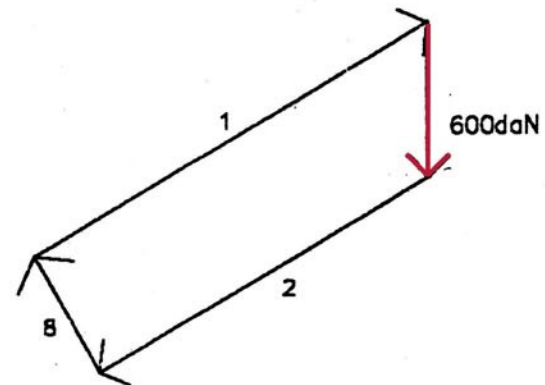
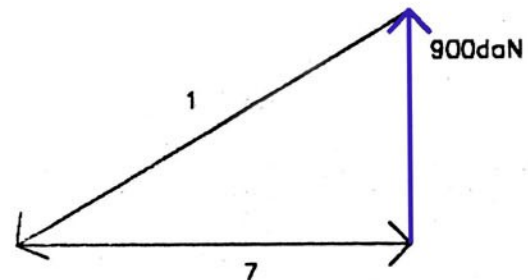
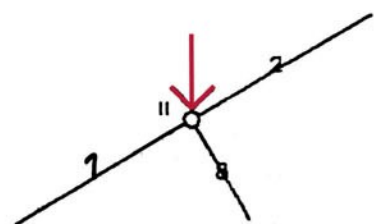
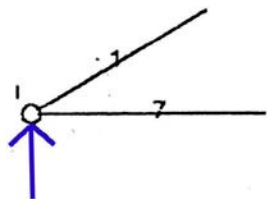
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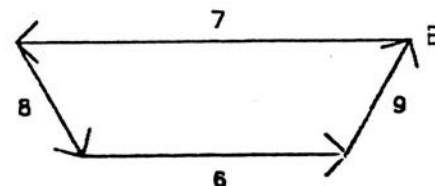
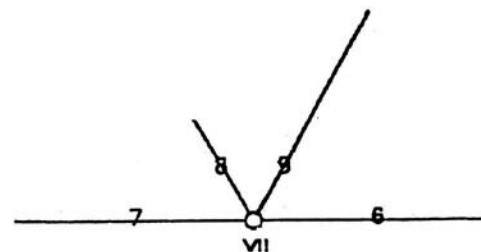
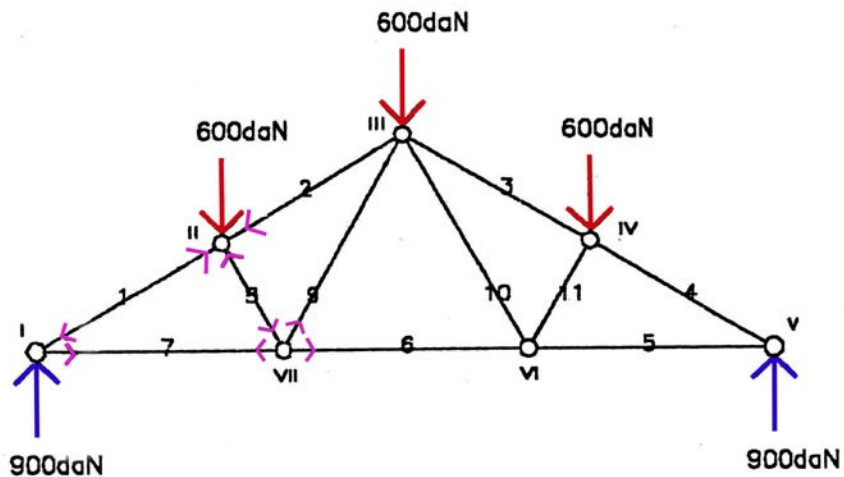
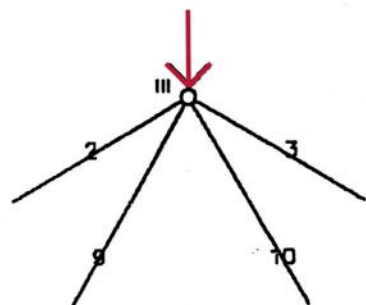
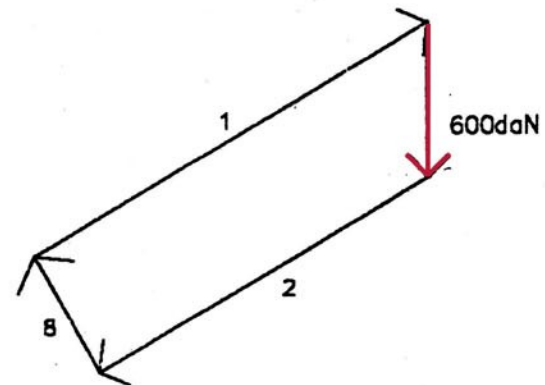
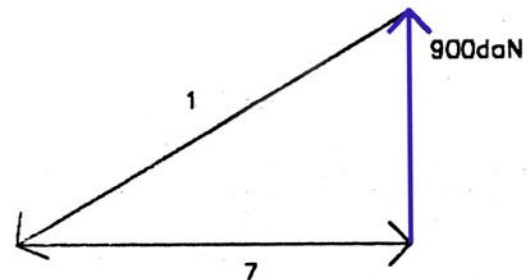
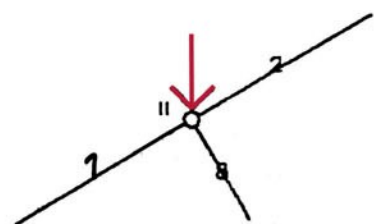
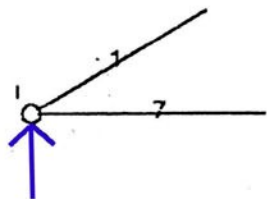
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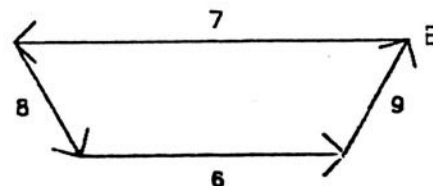
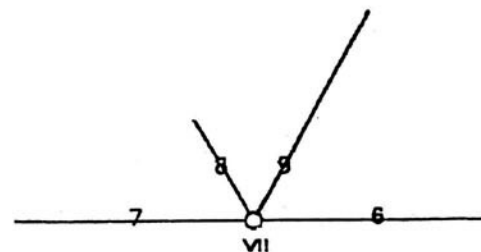
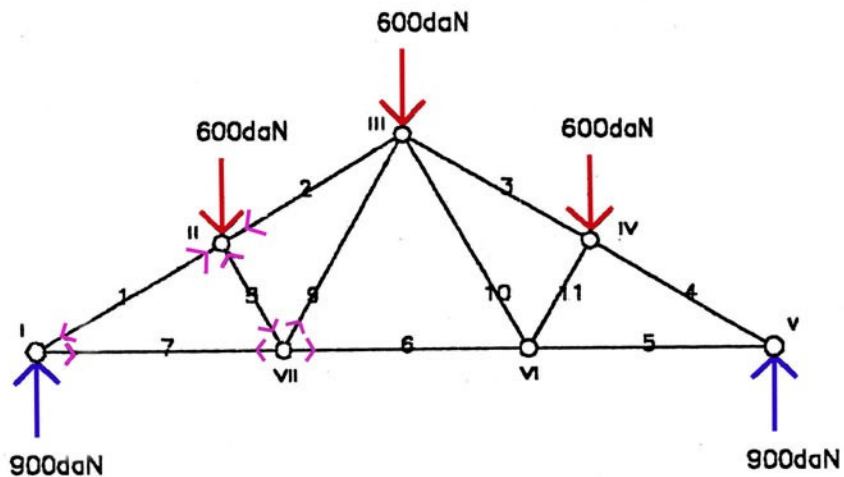
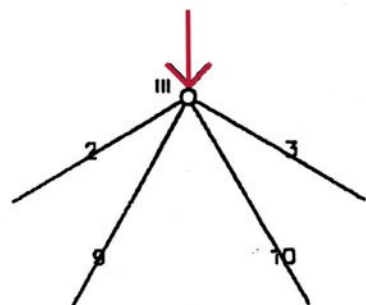
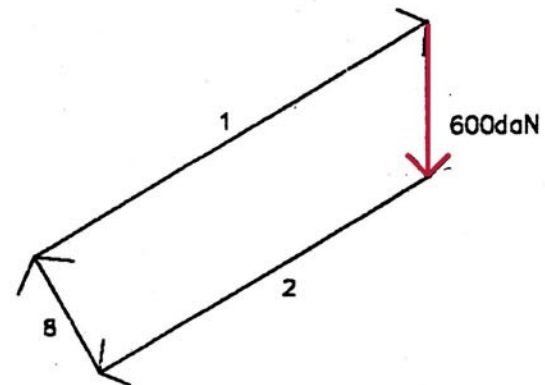
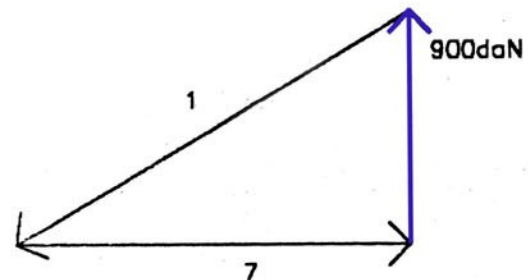
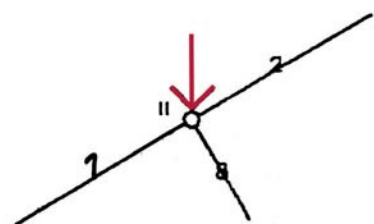
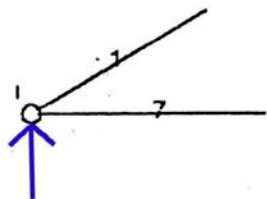
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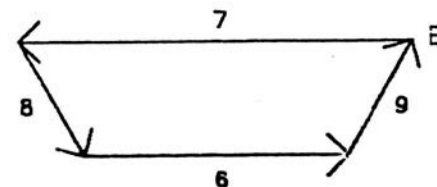
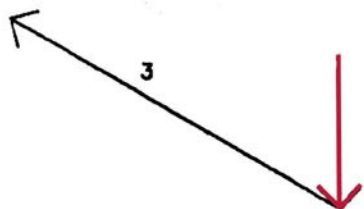
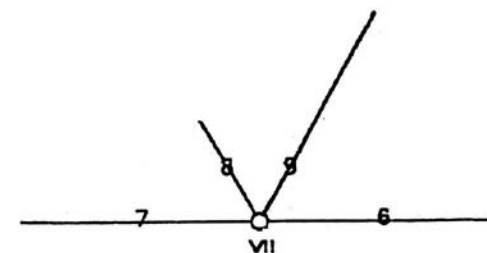
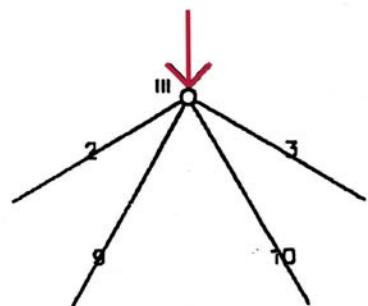
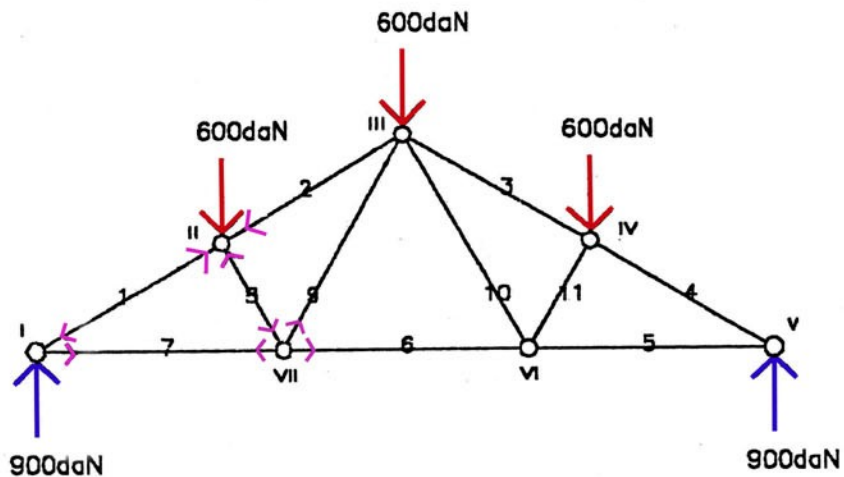
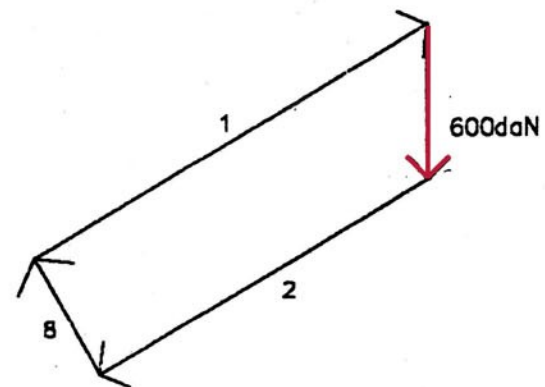
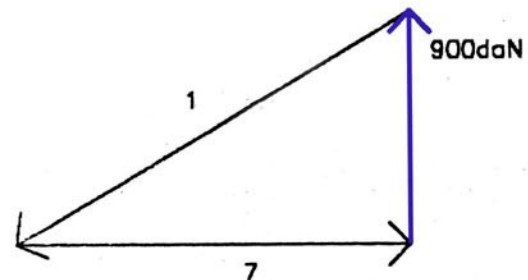
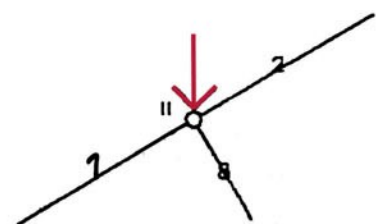
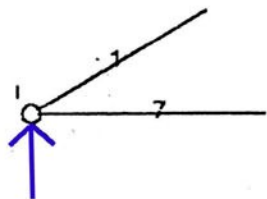
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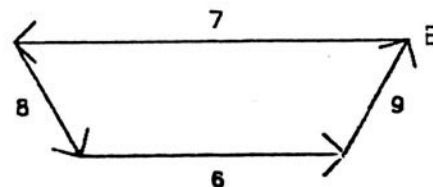
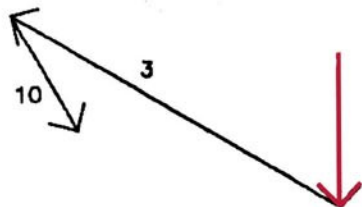
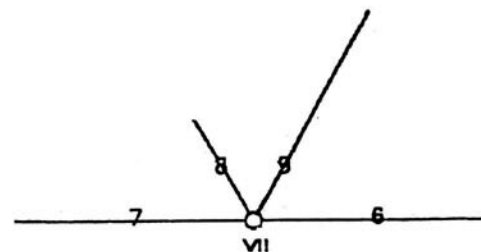
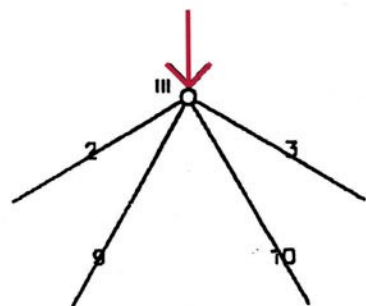
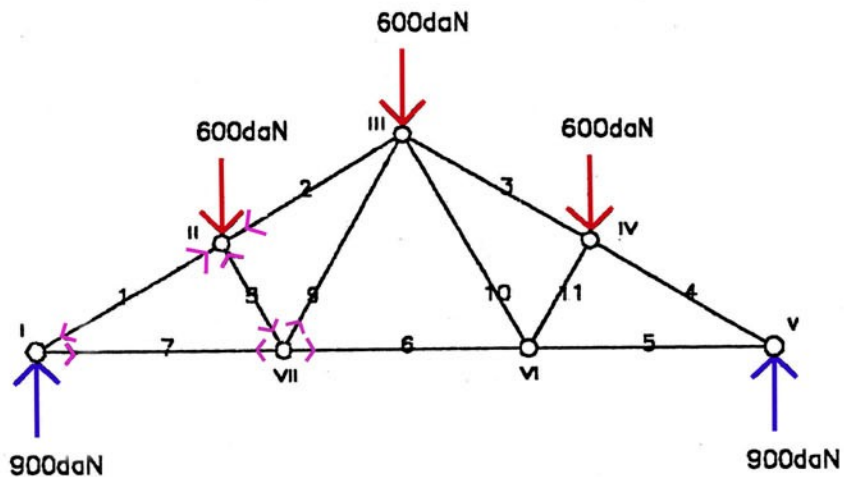
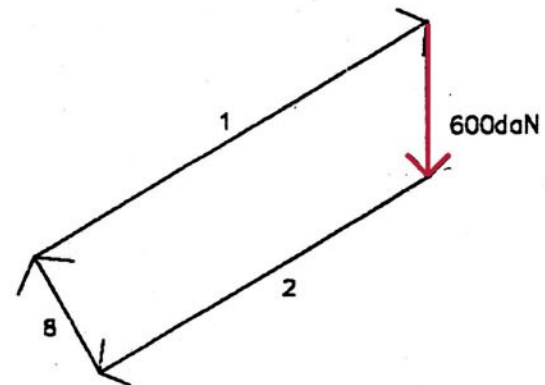
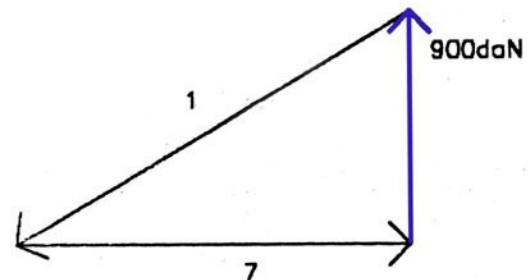
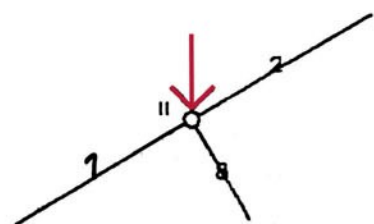
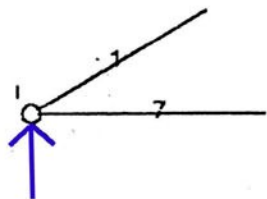
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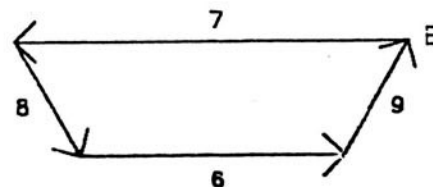
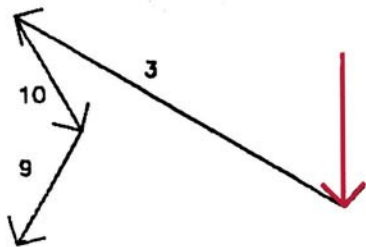
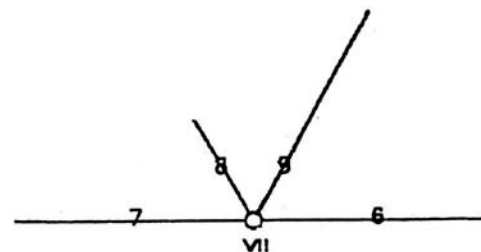
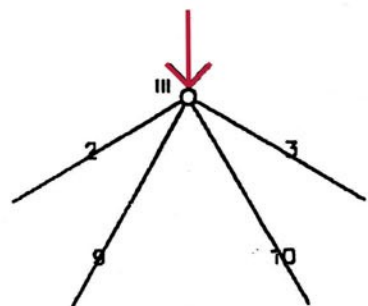
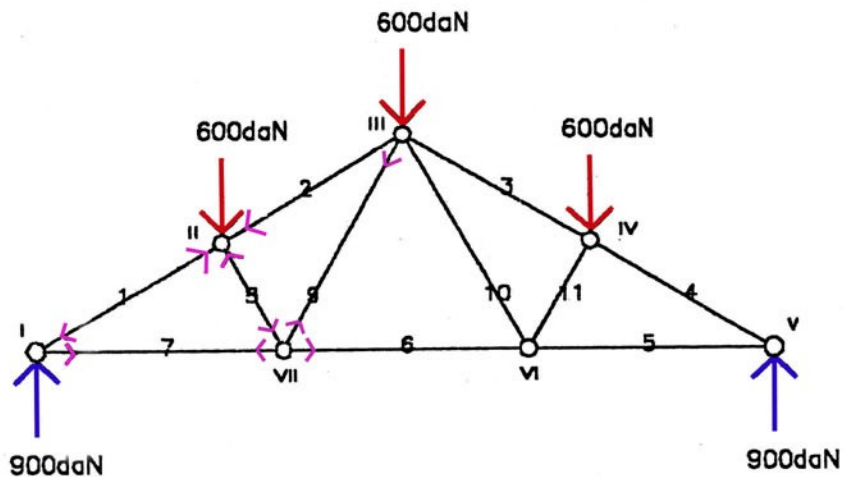
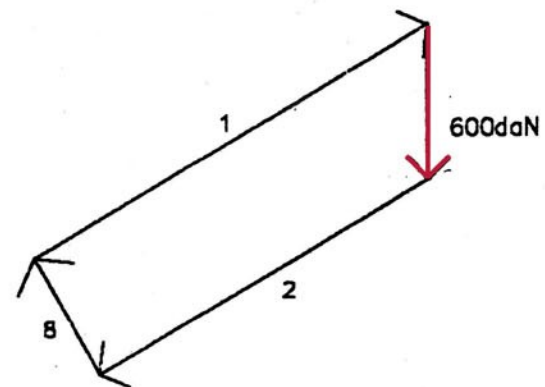
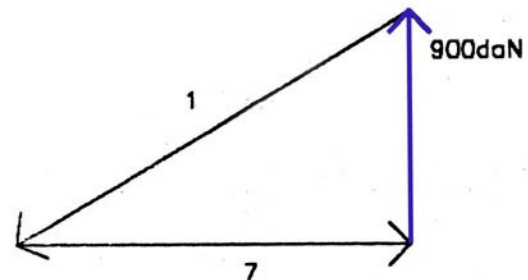
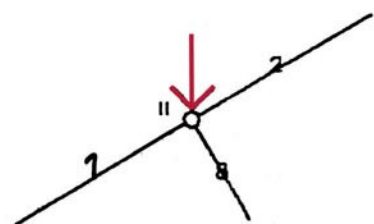
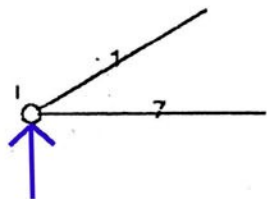
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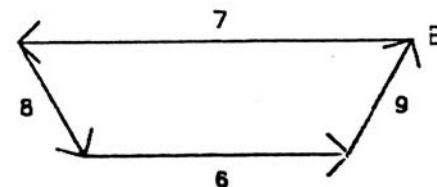
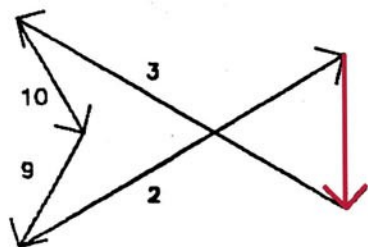
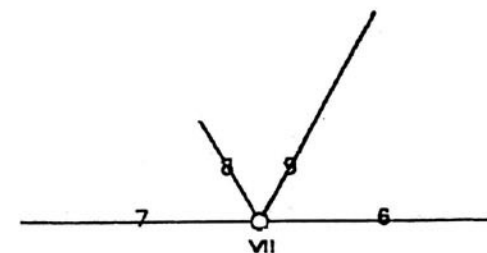
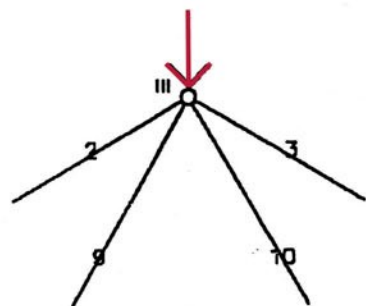
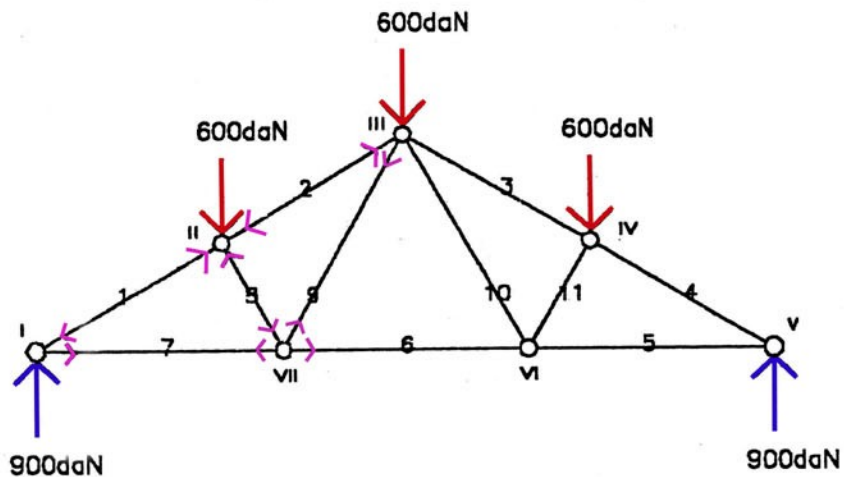
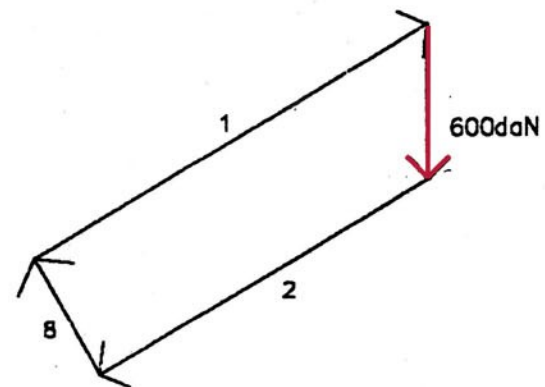
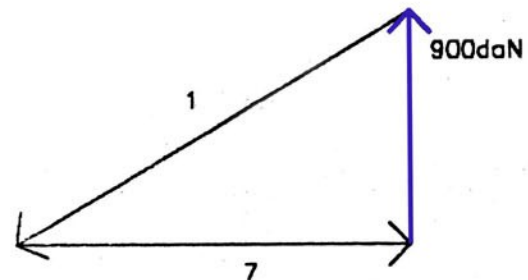
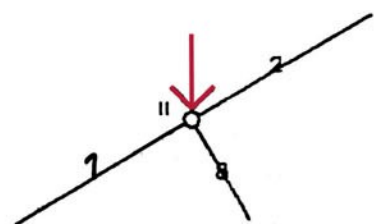
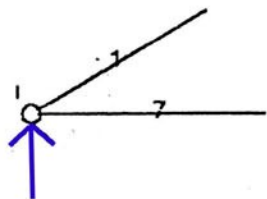
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MÉTODO DE LOS NUDOS



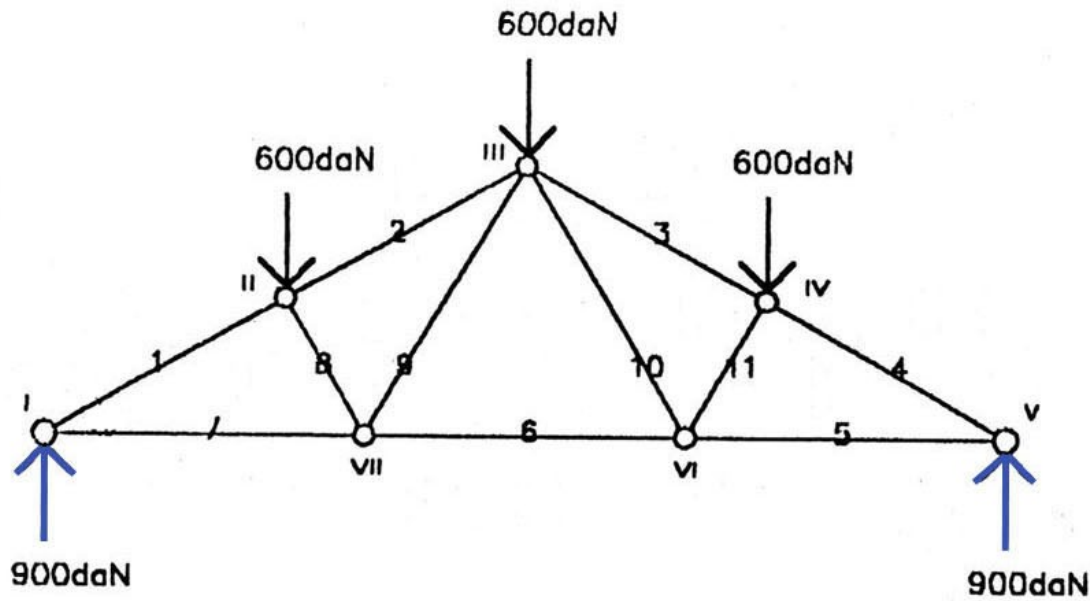
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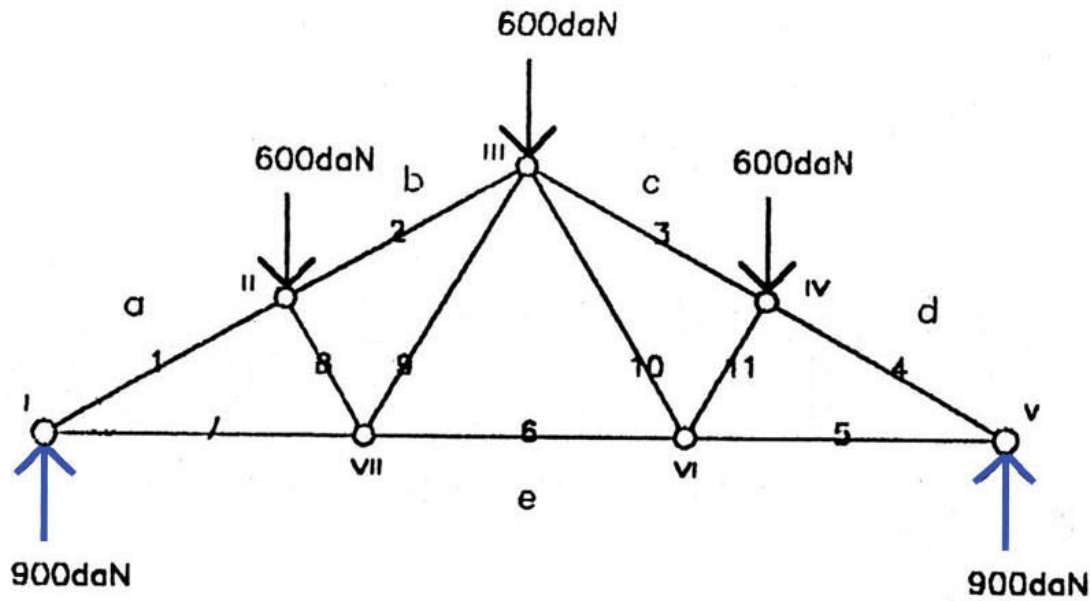
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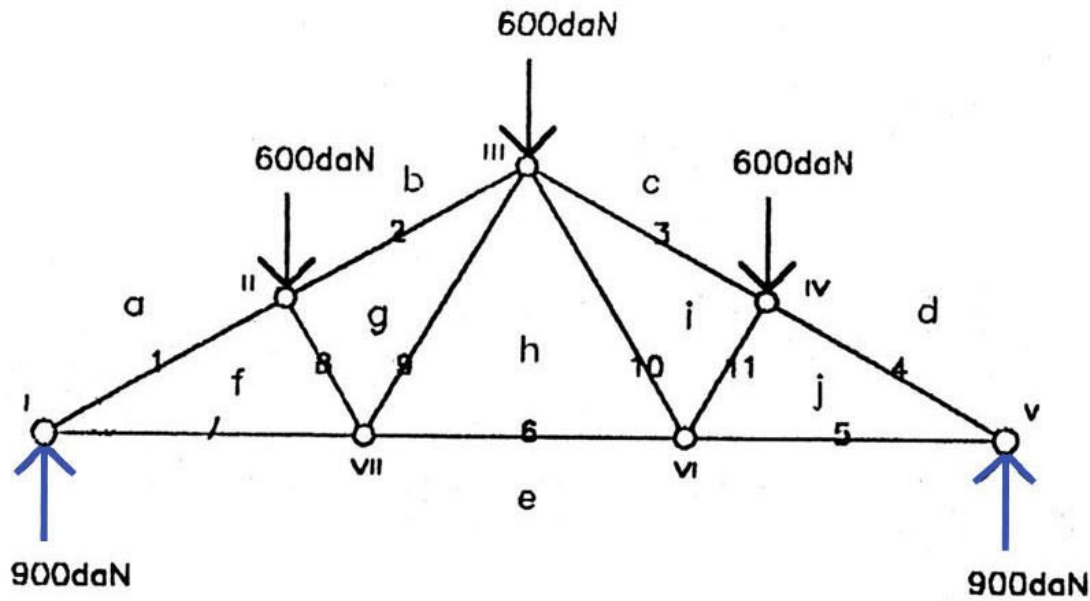
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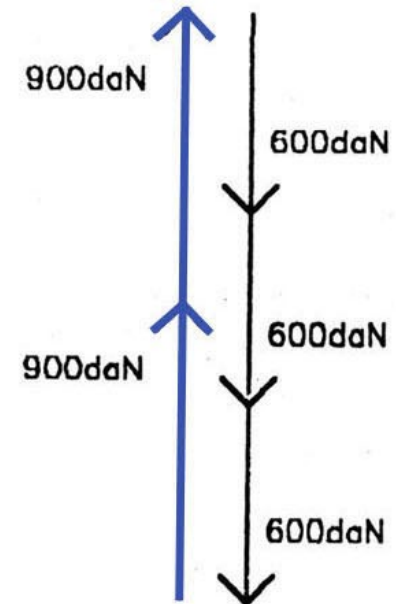
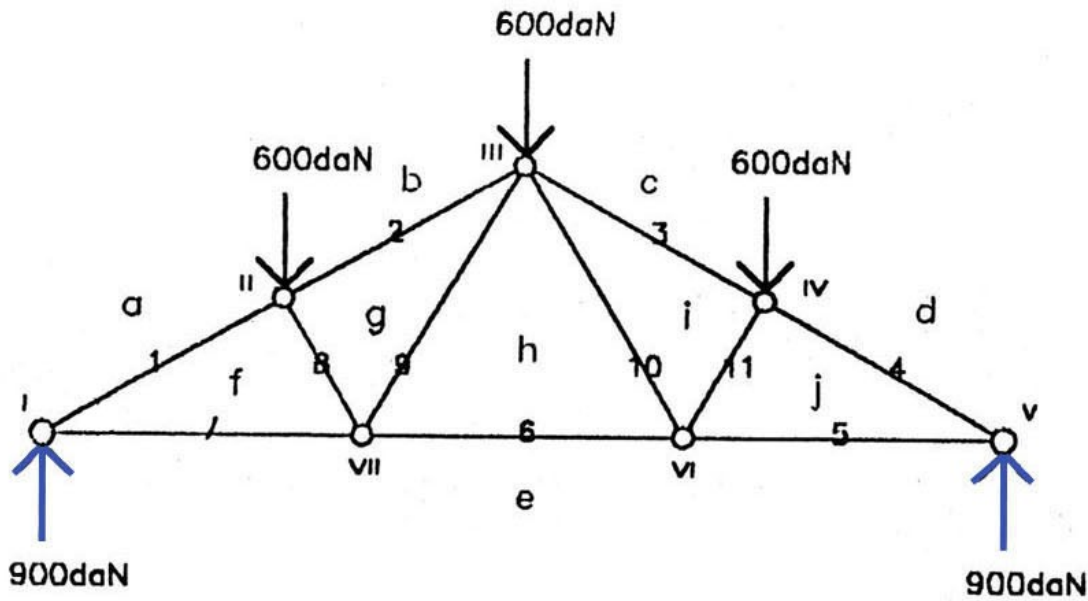
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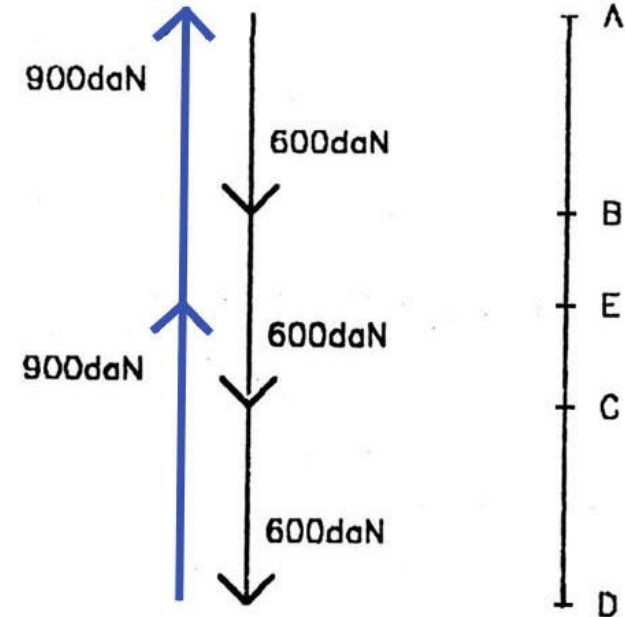
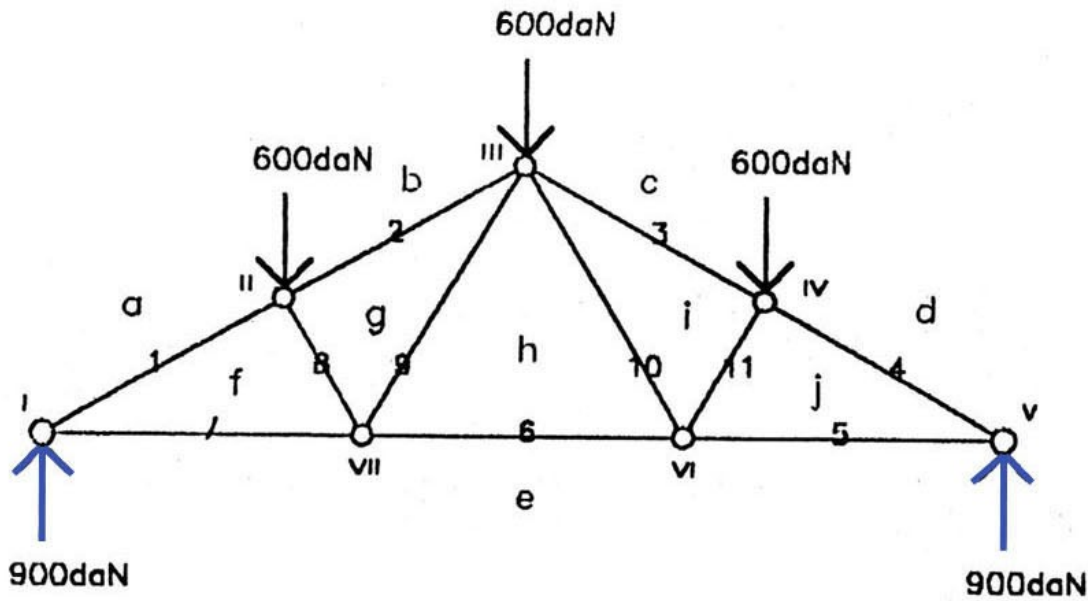
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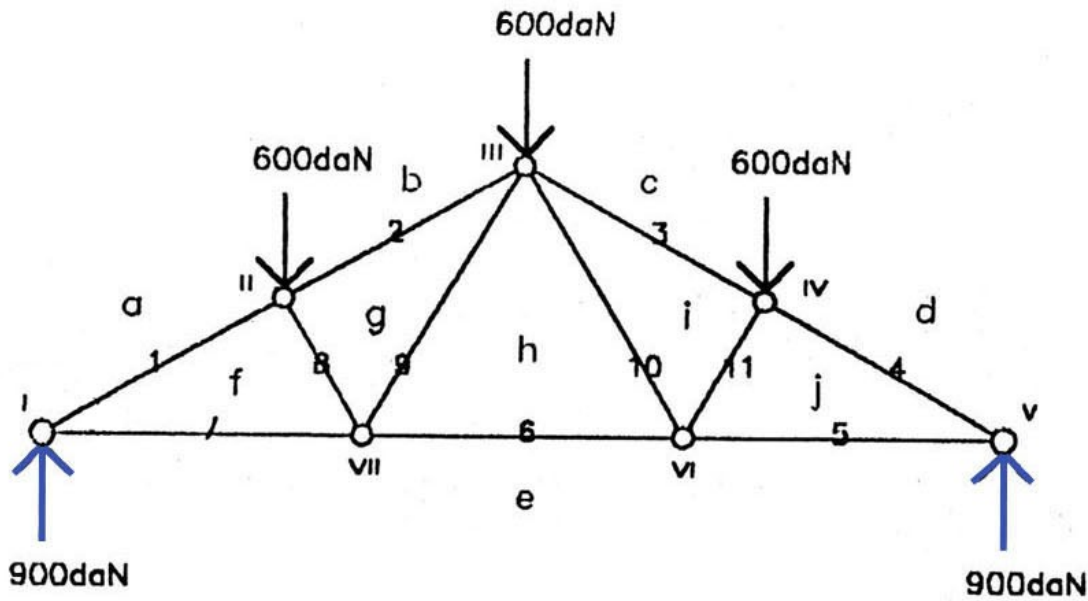
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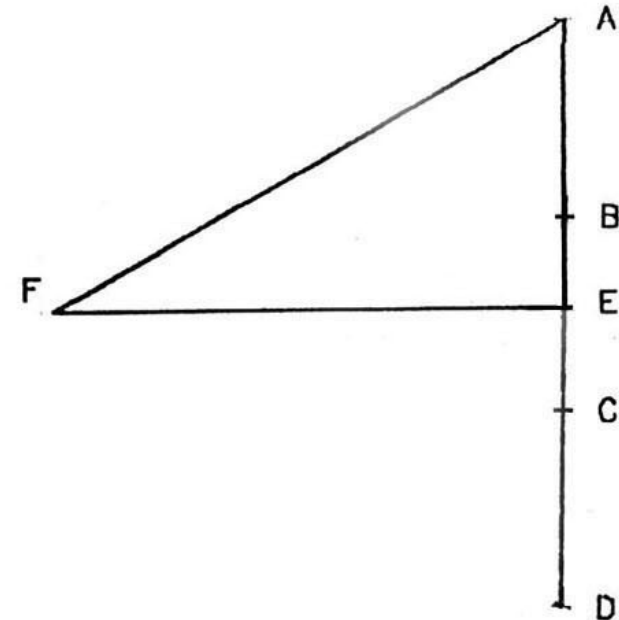
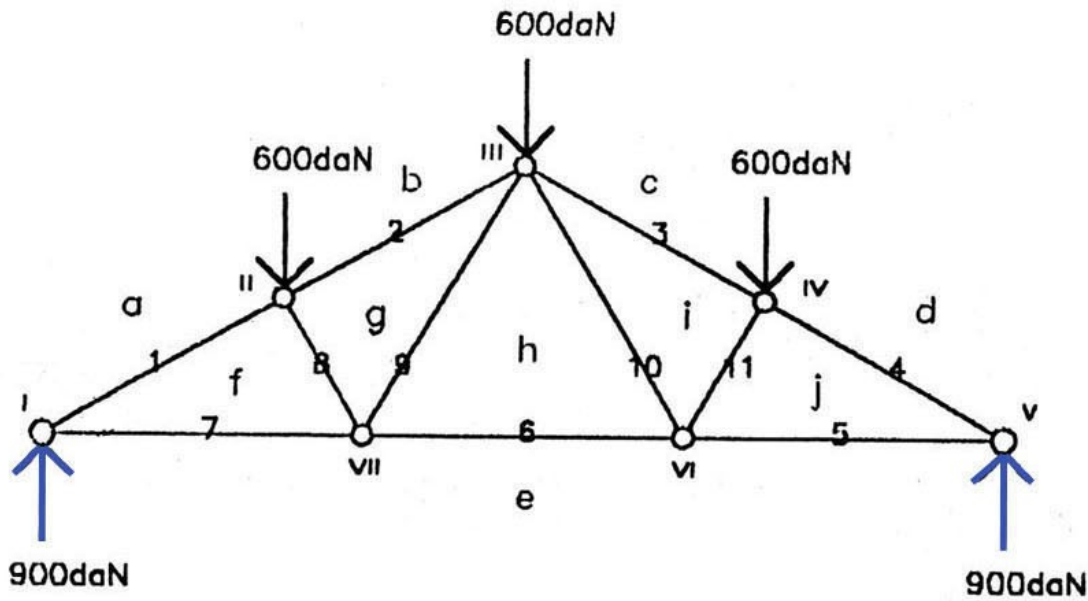
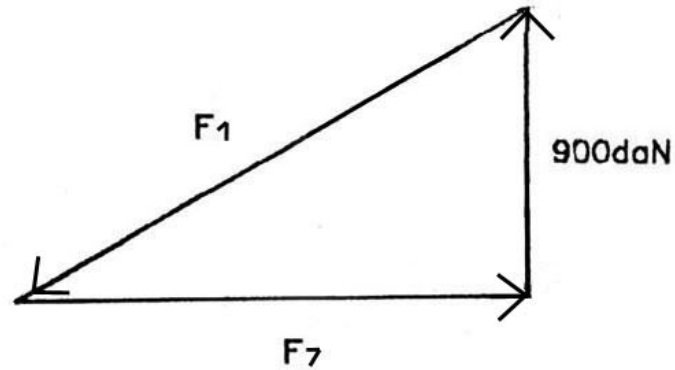


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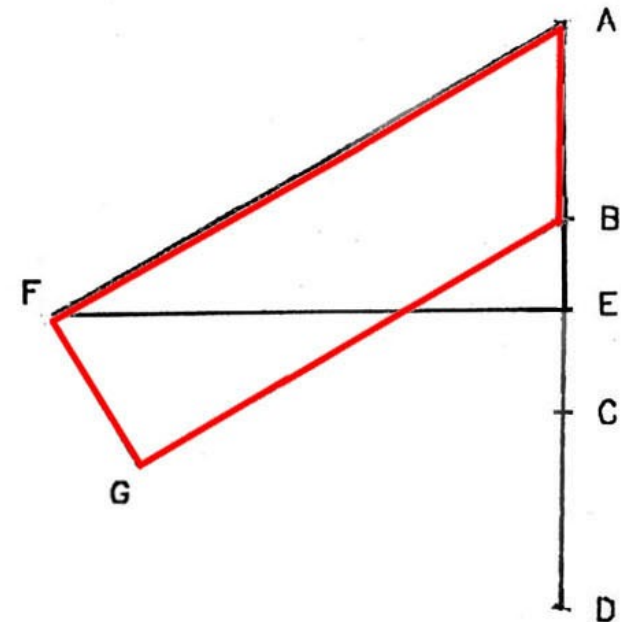
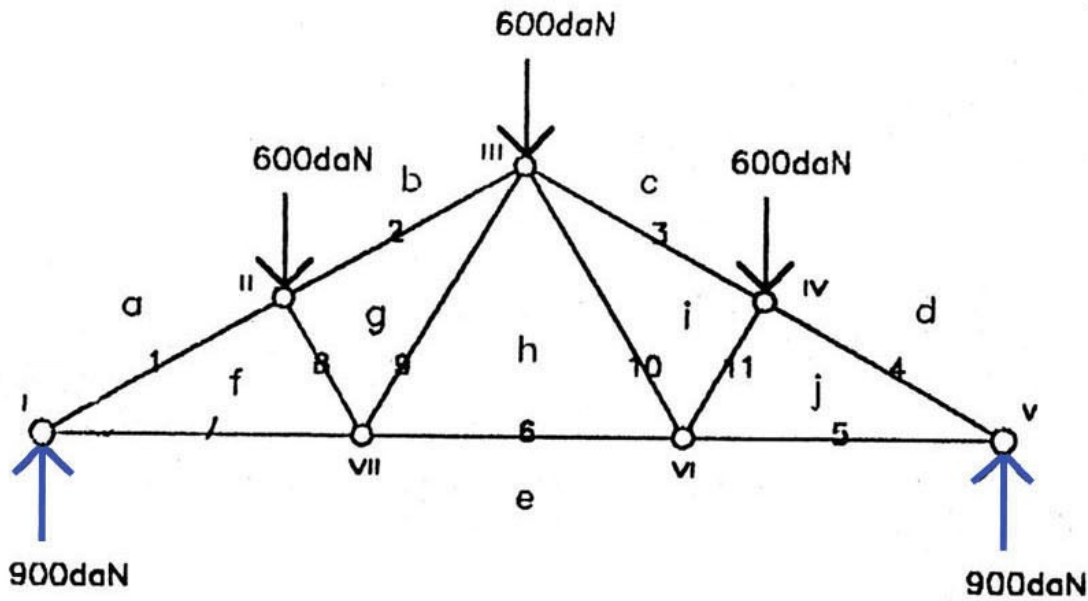
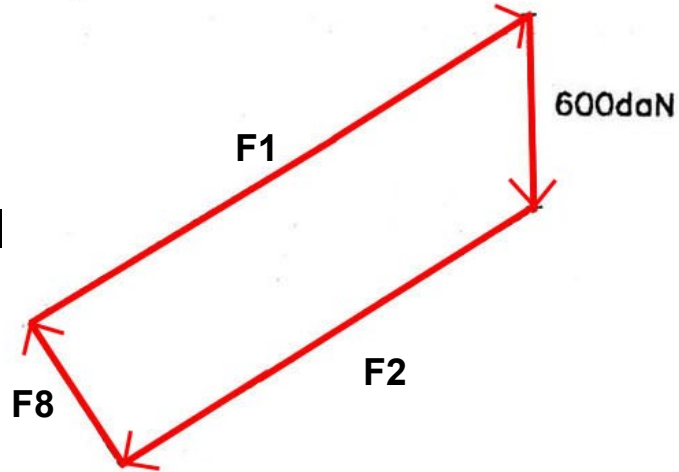
MÉTODO DE CREMONA

NUDO I



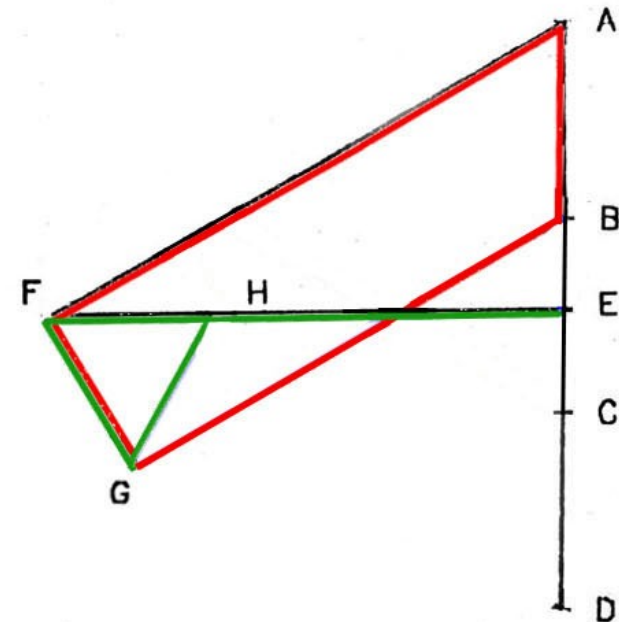
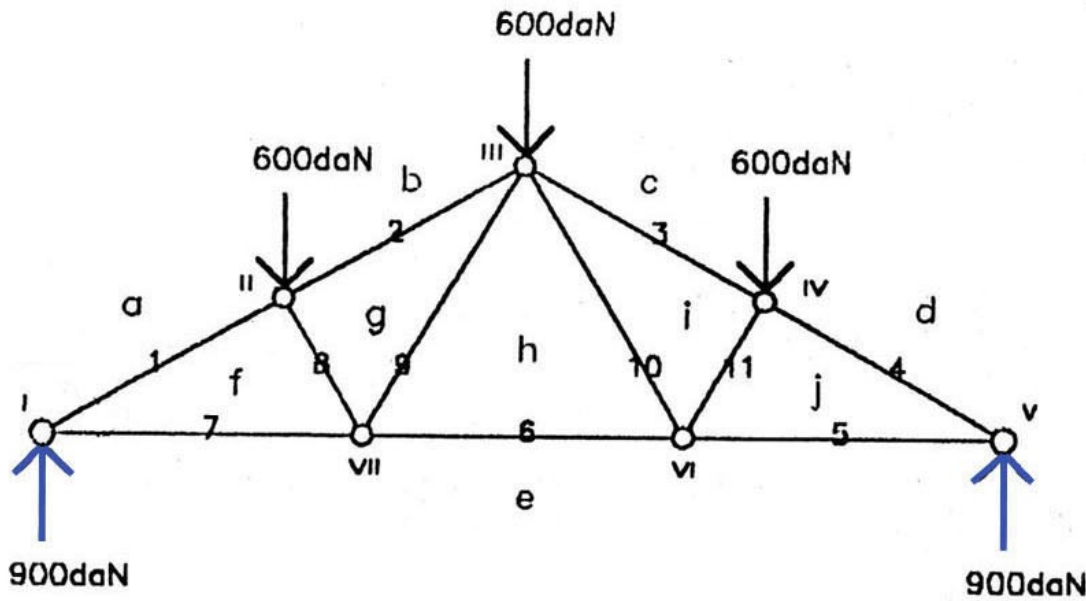
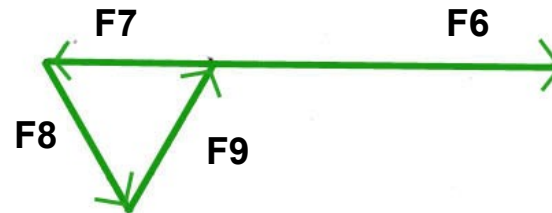
MÉTODO DE CREMONA

NUDO II



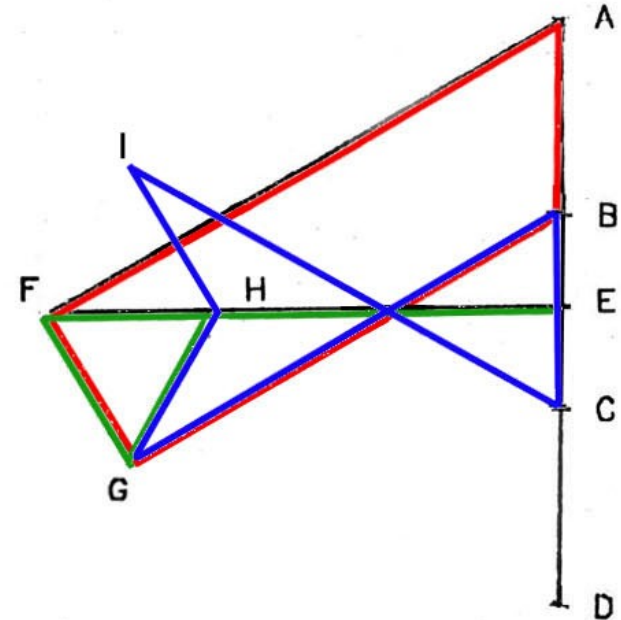
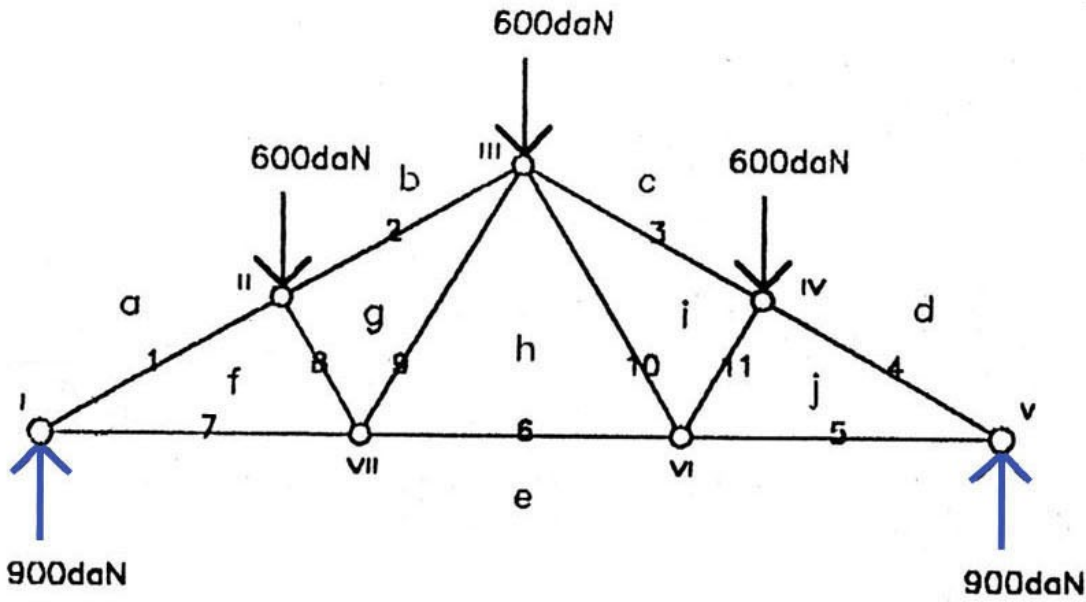
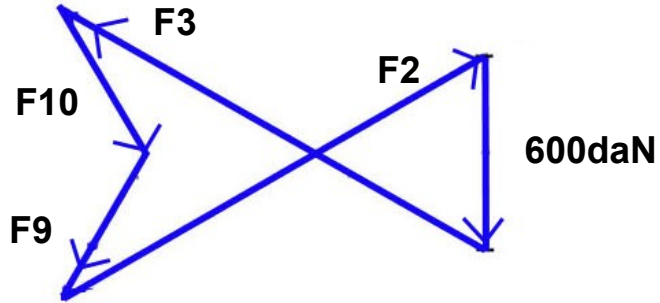
MÉTODO DE CREMONA

NUDO VII



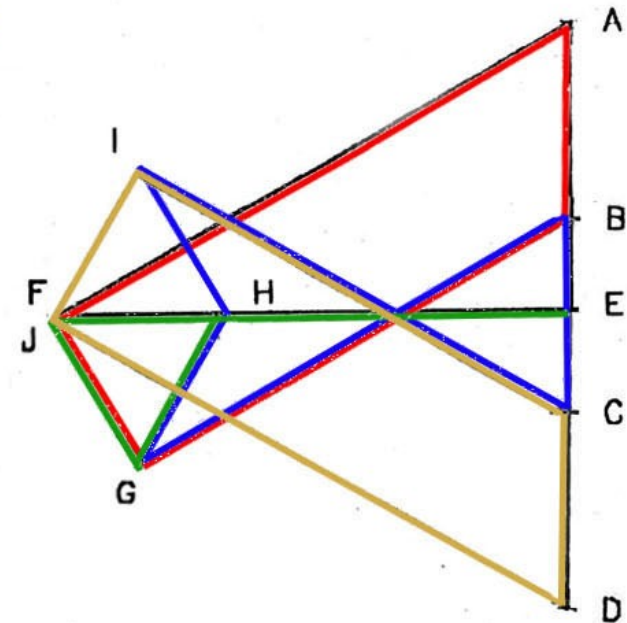
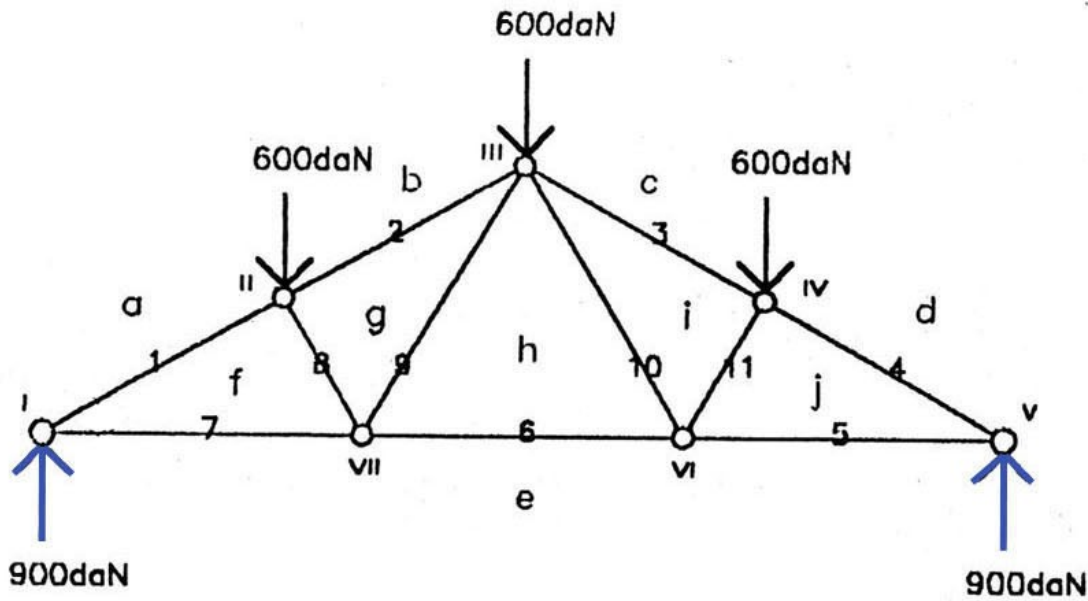
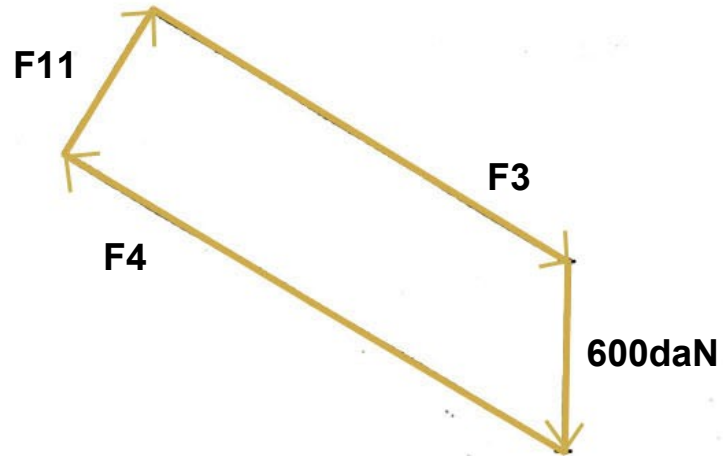
MÉTODO DE CREMONA

NUDO III



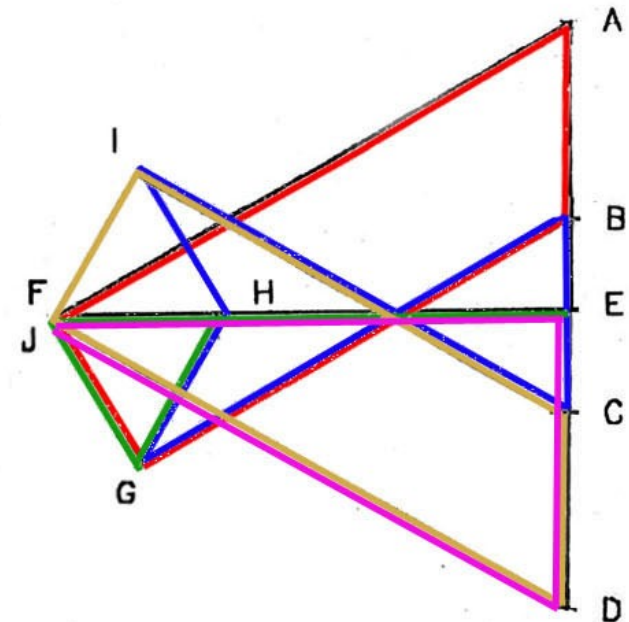
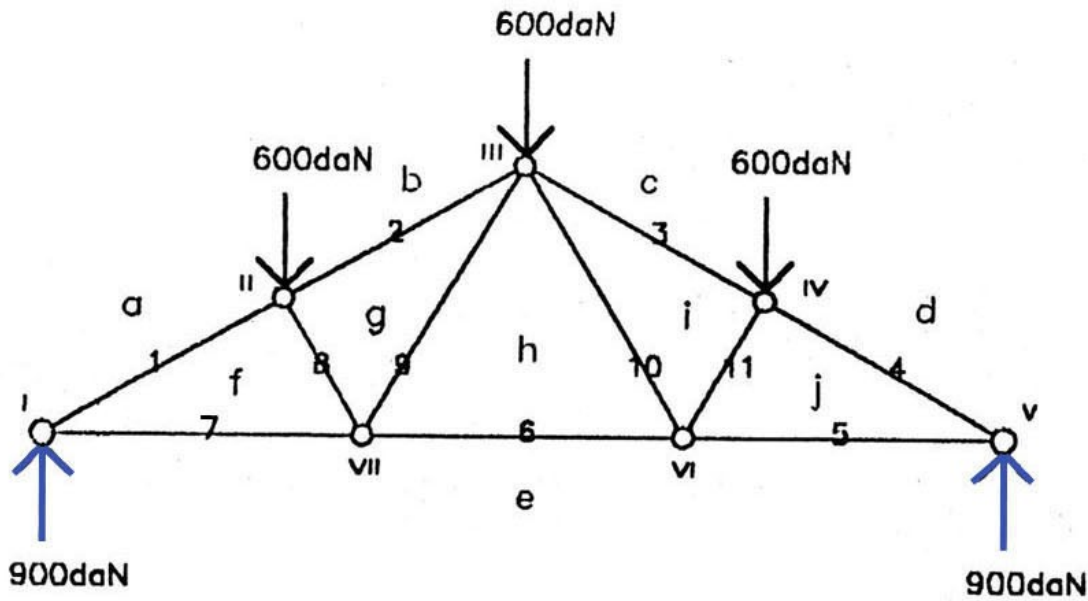
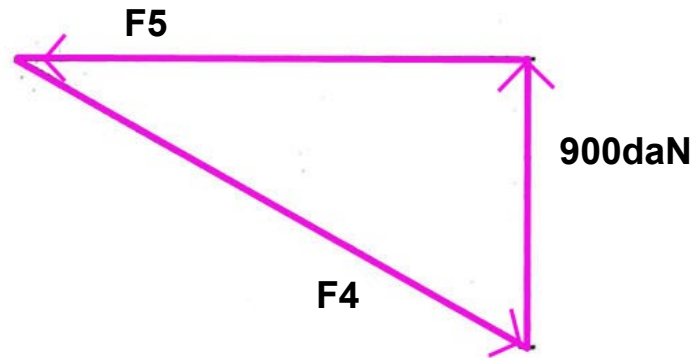
MÉTODO DE CREMONA

NUDO IV

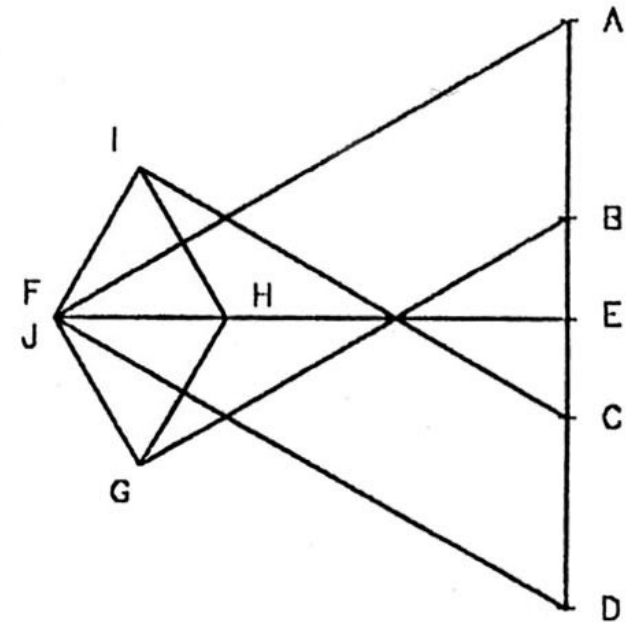
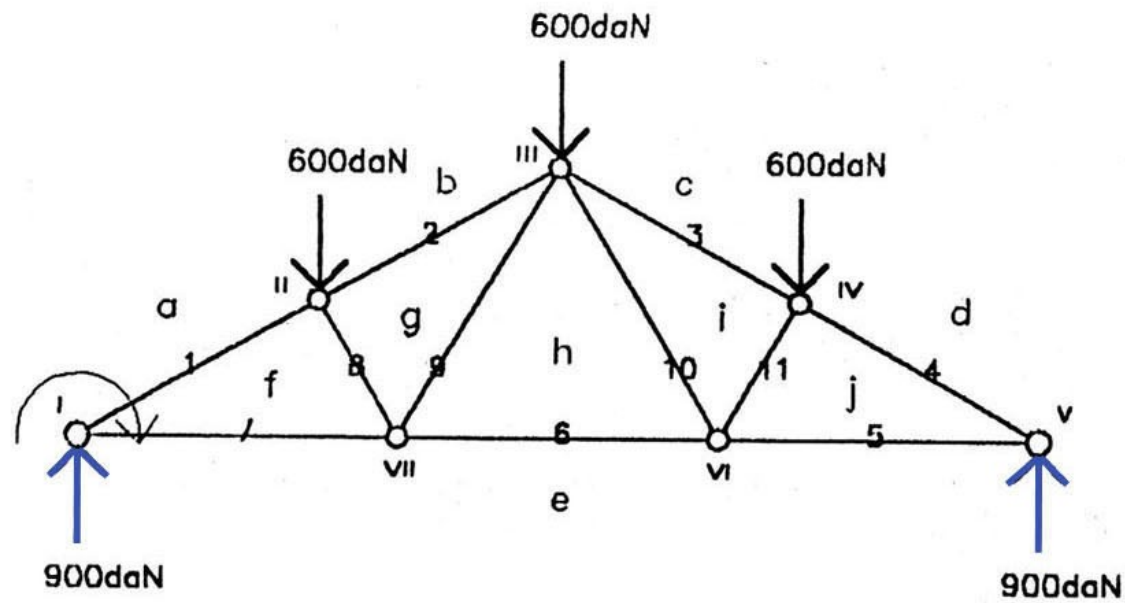


MÉTODO DE CREMONA

NUDO V



MÉTODO DE CREMONA



BARRA	COMPRESION	TRACCION	LONGITUD	SECCION	σ_{real}	σ_d EULER
1	1800daN		260cm			
2	1500daN		290cm			
3	1500daN		290cm			
4	1800daN		260cm			
5		1558daN	300cm			
6		1039daN	300cm			
7		1558daN	300cm			
8	519daN		150cm			
9		519daN	260cm			
10		519daN	260cm			
11	519daN		150cm			

TRACCIÓN

$$\sigma = \frac{F}{A} \leq f_d$$

$$A = \frac{F}{f_d}$$

COMPRESIÓN

$$\left. \begin{array}{l} \sigma = \frac{F}{A} < \sigma_d \text{ EULER} \leq f_d \\ \sigma_d \text{ EULER} = \frac{f_d}{\omega} \end{array} \right\} \frac{F}{A} < \frac{f_d}{\omega} \leq f_d$$

$$A = \frac{F}{f_d} \cdot \omega$$

$$\lambda = \frac{l_0}{i_{\min}} \quad l_0 = l_{\text{real}} \cdot \alpha$$