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1. Para cada punto obtener ζ y Wn.

Se utiliza la fórmula $\zeta=\cos(\theta)$

$\zeta=\cos(30º)$ $\zeta=\frac{\sqrt{3}}{2}$ $\zeta=\cos(60º)$ $\zeta=\frac{1}{2}$

y luego utilizamos $Wn=\frac{\alpha}{\zeta}$

$Wn=\frac{3}{\frac{\sqrt{3}}{2}}$	$Wn=2\sqrt{3}$
$Wn=\frac{3}{\frac{1}{2}}$	$Wn=6$

$Wn=\frac{6}{\frac{\sqrt{3}}{2}}$	$Wn=4\sqrt{3}$
$Wn=\frac{6}{\frac{1}{2}}$	$Wn=12$

2. Para cada punto obtener Mp y Ts2%.

Para el sobre-impulso se utiliza la fórmula $Mp=e^{-\left(\frac{\zeta\pi}{\sqrt{1-\zeta^2}}\right)}$.

$Mp=e^{-\left(\frac{\frac{\sqrt{3}}{2}\pi}{\sqrt{1-\frac{\sqrt{3}}{2}^2}}\right)}$

$Mp= 4.33x\ 10^{-3}$

$Mp=e^{-\left(\frac{\frac{1}{2}\pi}{\sqrt{1-\frac{1}{2}^2}}\right)}$

$Mp=0.163$

Luego se aplica la fórmula $Ts2\%=\frac{4}{\zeta Wn}$

$Ts2\%=\frac{4}{\frac{\sqrt{3}}{2}.2\sqrt{3}}$

$Ts2\%= \frac{4}{3}$

$Ts2\%=\frac{4}{\frac{\sqrt{3}}{2}.4\sqrt{3}}$

$Ts2\%=\frac{2}{3}$

$T_{s2\%}=\frac{4}{\frac{1}{2}.6}$

$T_{s2\%}=\frac{4}{3}$

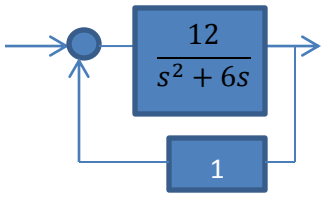
$T_{s2\%}=\frac{4}{\frac{1}{2}.12}$

$T_{s2\%}=\frac{2}{3}$

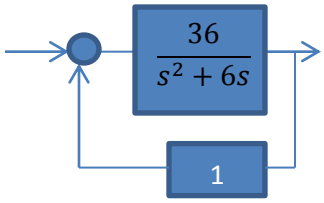
3. Para cada punto sugiera un sistema.

Para las funciones usamos la siguiente fórmula $G=\frac{Wn^2}{s^2+2\zeta Wns+Wn^2}$

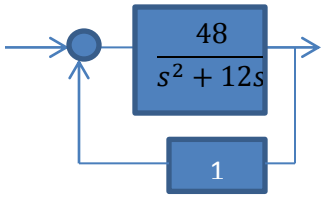
- $G1=\frac{2\sqrt{3}^2}{s^2+2\frac{\sqrt{3}}{2}2\sqrt{3}s+2\sqrt{3}^2}$ $G1=\frac{12}{s^2+6s+12}$



- $G2=\frac{6^2}{s^2+2\frac{1}{2}6s+6^2}$ $G2=\frac{36}{s^2+6s+36}$



- $G3=\frac{4\sqrt{3}^2}{s^2+2\frac{\sqrt{3}}{2}4\sqrt{3}s+4\sqrt{3}^2}$ $G3=\frac{48}{s^2+12s+48}$



- G4=$\frac{12^2}{s^2+2\frac{1}{2}12s+12^2}$ G4=$\frac{144}{s^2+12s+144}$