Spring Hooke's law
force

$$F = Kx \leftarrow \text{displacement}$$

gain

gain → proportional constant

process

→ signal arrow
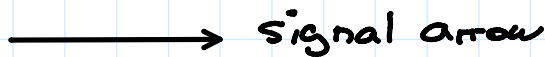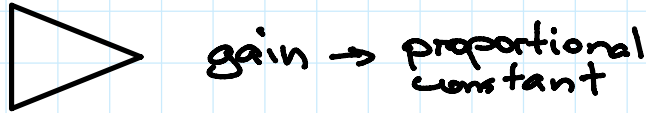
Fin, Vin   Input signals
Fout, Vout   Output signals

X   displacement
I   current

(+ −) summing point / difference point

Series = Multiplication

Vin → [K] → [G₁] → [G₂] → VinK x G₁ x G₂

VinK x   VinK x G₁ x

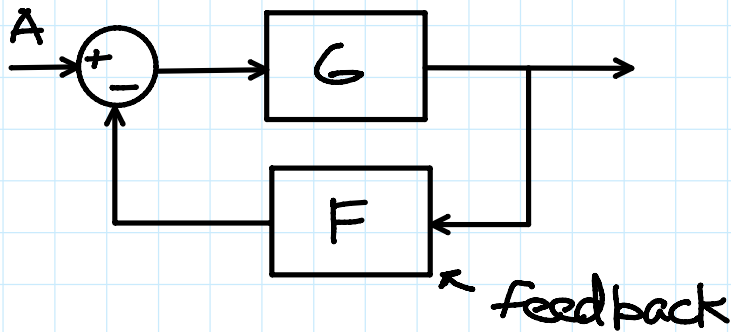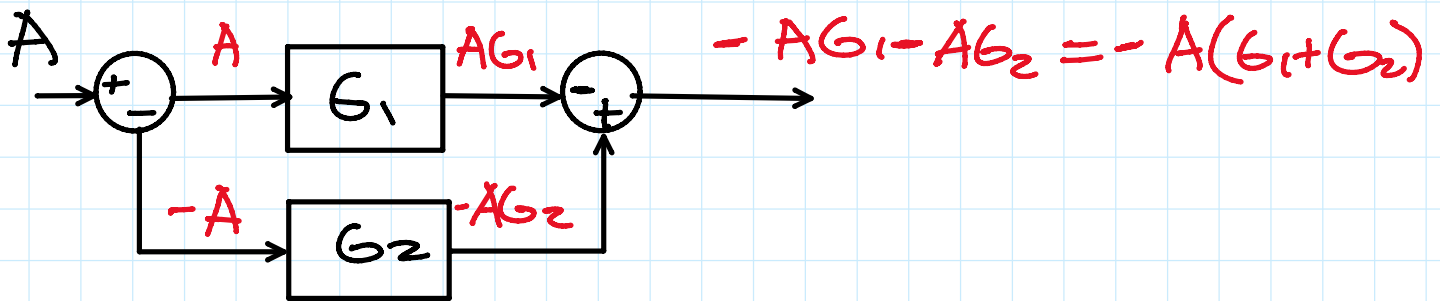X → [G] → Y $G = \dfrac{Y(s)}{X(s)}$
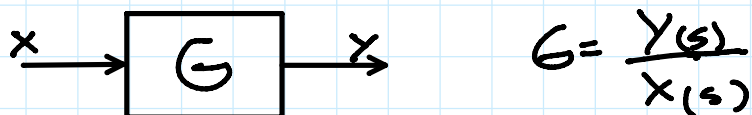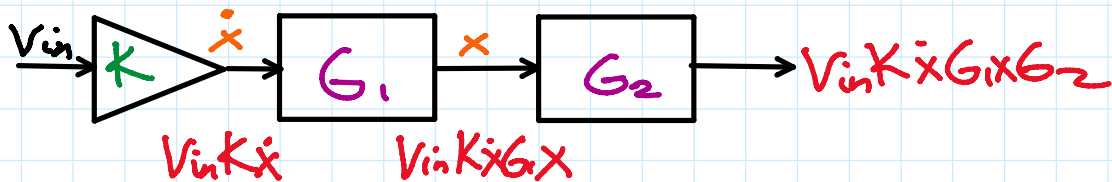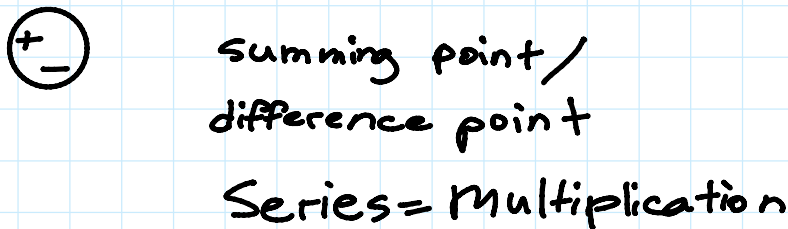
G - transfer function: The ratio of the laplace of output and input
X - input
Y - output

X - input
Y - output

output and input

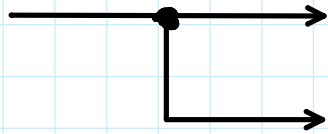Parallel with summing point = Addition

A

A G_1 AG_1

$-A$ G_2 $-AG_2$

$-AG_1 - AG_2 = -A(G_1 + G_2)$

A G

F

feedback

Negative Feedback

A G

F
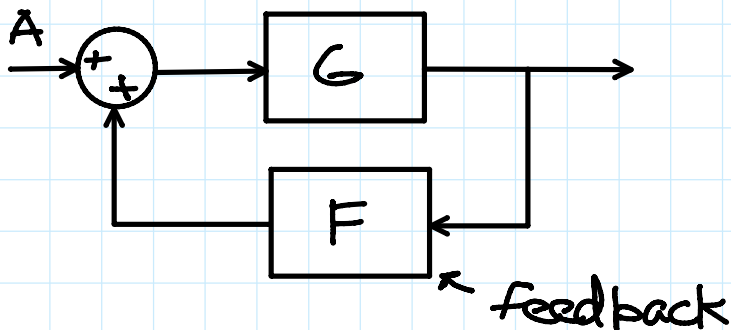
feedback

Positive Feedback

Branch Point