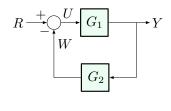
## Basic System Interconnections: Negative Feedback



Find the transfer function from  ${\cal R}$  (reference) to  ${\cal Y}$ 

$$U = R - W$$

$$Y = G_1 U$$

$$= G_1 (R - W)$$

$$= G_1 R - G_1 G_2 Y$$

$$\implies Y = \frac{G_1}{1 + G_1 G_2} R$$

