

Special Problem 3.B-10

Two matched **amplifiers** are cascaded as shown below.

Incident on the **input** of the first amplifier is a signal with power:

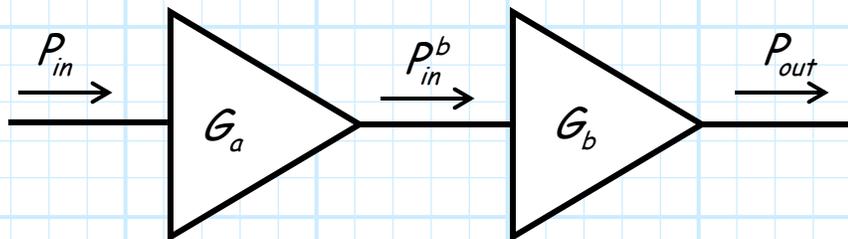
$$P_{in} (dBm) = -40 \text{ dBm}$$

Exiting the **output** of the second amplifier is a signal with power:

$$P_{out} (dBw) = -50 \text{ dBw}$$

The **gain** of the second amplifier is:

$$G_b (dB) = 7.0 \text{ dB}$$



Determine:

1. The **gain** of the **first** amplifier (G_a) in decibels.
2. The **power incident** on the **second** amplifier (P_{in}^b), in milli-Watts.