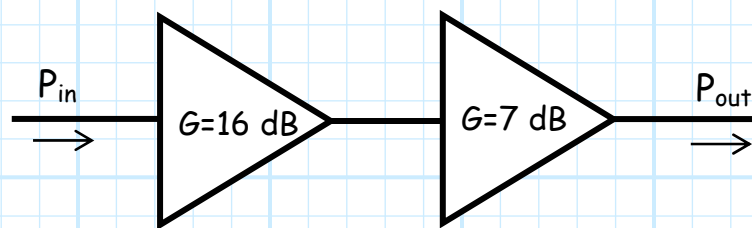**Special Problem 3.B-1**

1. The input power to an amplifier is –50 dBm and its output is –60 dBW. What is the gain of this amplifier in dB?

2. An amplifier with a gain of 23 dB has an ouput power of –20 dBm. Determine the input power in dBm, dBw, and Watts.

3. Two amplifiers are cascaded as shown below:

P_{in}

G=16 dB

G=7 dB

P_{out}

If the input power to the first amplifier is –73 dBm, determine the power out of the second amplifier. What is the total effective gain achieved by cascading these two amps?

4. The power out of a certain device is $P_{out} = x^3$ mW . If P_{out} = - 47dBm, find the value of x.