Hi Javier,

For each "s" in the denominator of T(s), there is a "pole". Each pole decreases the magnitude by -20dB/decade at the frequency, f, that corresponds to solving for w when you place in the physical frequency by letting s=jw.

On the other hand, if there was a "s" in the numerator of T(s) that would correspond to a "zero". Each zero increases the magnitude by +20dB/decade at the frequency, f, that corresponds to solving for w when you place in the physical frequency by letting s=jw.

So if you had a bandpass filter that has a magnitude of 20dB, there would have to be both a zero (to raise the gain to 20dB from 0dB in one dacade at frequency, f1) and a pole (to lower the gain from 20dB to 0dB in one decade at frequency, f2). Remember that w=2πf.

So P2.86 has one pole. The gain lowers by -20dB/dec which is the same if you reduce -40dB/2 decades. The gain line is just drawn to zero to make extrapolate where the straight line hits 0dB. If carefully drawn, this gives you the unity gain frequency. Right now you do not need to " calculate" it.  Later when we get into transistors, there are equations based on models that can assist in finding the approximate unity gain frequency.

A basic polt for the magnitude on the exam is the extent to what I'm looking for.

Hope this helps!

Susan



