EECE 2412 ASSIGNMENT 2 Sp '16

Text Problems: 2.10, 2.18, 2.23 a (only do a).

Problem A

1. Design an non-inverting amplifier using an "ideal" Op-amp. The total resistance used must not exceed 40kΩ and the gain ($|A_{CL}| = 20$)
2. Repeat (1) for an inverting stage.

Problem B

1. An Op-amp has the following open-loop gain

$$A_{OL}(j\omega) = \frac{A_{OL}(0)}{1 + j\omega/\omega_h}$$ where $A_{OL}(0) = 2 \times 10^5$ and $\omega_h = 60$ rad/s

For the amplifier in A1, what is the bandwidth?

2. Two identical stages described above are cascaded. What is the new gain-bandwidth product of the cascade? What is the amplifier's bandwidth?