

#1(b) solution:

$$\widehat{g}(\omega) = \frac{1}{2i} \left[\frac{1}{5 - i(\omega - 2)} - \frac{1}{5 - i(\omega + 2)} \right] + \frac{1}{2i} \left[\frac{1}{5 + i(\omega - 2)} - \frac{1}{5 + i(\omega + 2)} \right]$$

So just switch the last two terms in the solution.

#2 solution:

If $\omega = 0$ then $\widehat{g}(0) = 0$. If $\omega \neq 0$ then

$$\widehat{g}(\omega) = 2i \left(\frac{\cos(\omega)}{\omega} - \frac{\sin(\omega)}{\omega^2} \right)$$

On page 3, the second line from the bottom is

$$\frac{e^{-i\omega} + e^{i\omega}}{-i\omega} - \frac{e^{-i\omega} - e^{i\omega}}{-\omega^2}$$

#4(b)(c):

$$\widehat{f}(\omega) = e^{(3-i\omega)\pi} \frac{1}{3 - i\omega}$$
$$\widehat{h}(\omega) = \frac{e^{(3-i\omega)\pi} - 1}{3 - i\omega}$$

Last line on page 4, an "i" is missing in the exponential.