

ECE 321 - Homework #27

Superposition

1) A circuit has the following transfer function

$$Y = \left(\frac{20}{(s+1)(s+5)} \right) X$$

Find $y(t)$ assuming

$$x(t) = 2 + 3 \cos(4t) + 5 \sin(6t)$$

2) A circuit has the following transfer function

$$Y = \left(\frac{20}{(s+1+j4)(s+1-j4)} \right) X$$

Find $y(t)$ assuming

$$x(t) = 2 + 3 \cos(4t) + 5 \sin(6t)$$