

Practice final exam answer sheet:

Practice A:

1) $v(t) = 8 + 4e^{-0.5t} V$

2) $v(t) = 60 - 18e^{-5t} V$

3) $i(t) = 3.5 - 2e^{-3t} A$; $i_x(t) = 3.5 + e^{-3t} A$

4) $v(t) = 36 - 32e^{-2t} + 8e^{-4t} V$;

$$v_R(t) = 12(3 - 4e^{-2t} + 2e^{-4t}) V$$

5) $v(t) = 24 + e^{-6t}(-24\cos 8t - 5.5\sin 8t) V$

Practice B:

1) $i_L(t) = 4 + 6e^{-5t} A$; $v_R(t) = 48(1 - e^{-5t}) V$

2) $i(t) = 3 + 4e^{-7t} A$; $i_x(t) = 9 - 2e^{-7t} A$

3) $v_c(t) = 20 - 12e^{-\frac{1}{3}t} V$

4) $v_c(t) = (12 + 240t)e^{-20t} V$

5) $v_c(t) = 6 - 16e^{-t} + 4e^{-2t} V$;

$$v_R(t) = 6 - 8e^{-t} + 4e^{-2t} V$$