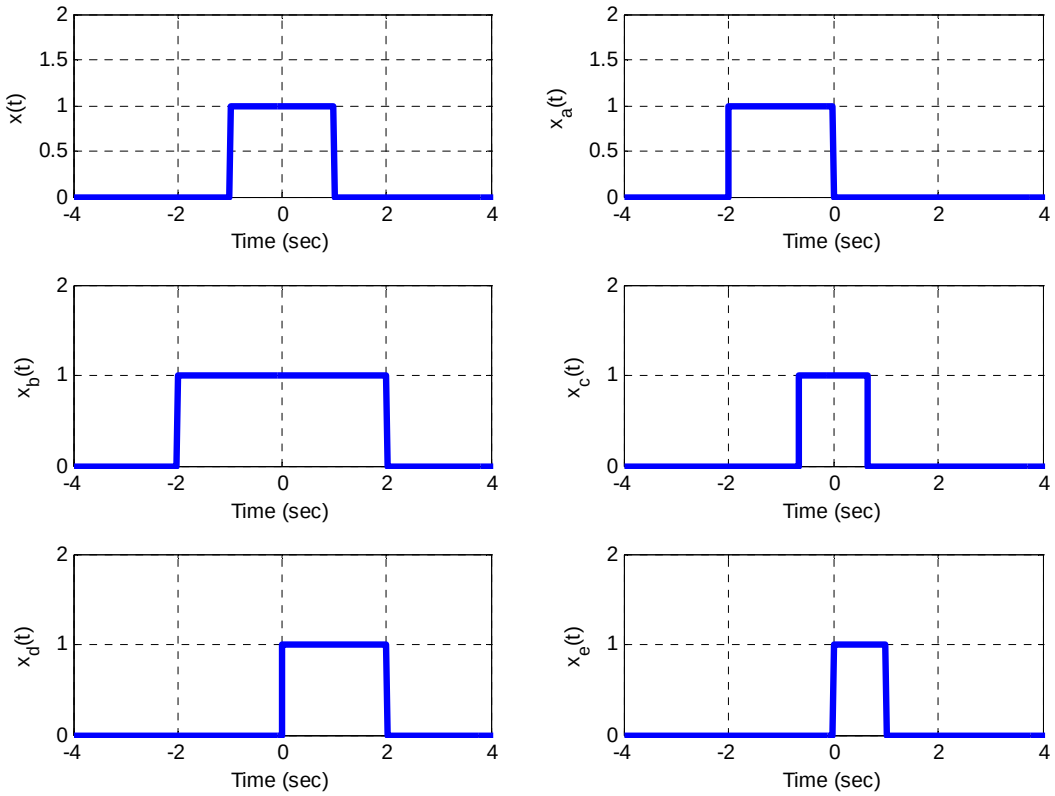
Name _____ CM_____

ECE-300, Quiz #0

In the figure below, $x(t)$ is the original signal (in the upper left corner)



1) Which signal represents $x\left(\frac{t}{2}\right)$? $x_a(t)$ $x_b(t)$ $x_c(t)$ $x_d(t)$ $x_e(t)$

2) Which signal represents $x(2t-1)$? $x_a(t)$ $x_b(t)$ $x_c(t)$ $x_d(t)$ $x_e(t)$

3) Which signal represents $x(t+1)$? $x_a(t)$ $x_b(t)$ $x_c(t)$ $x_d(t)$ $x_e(t)$

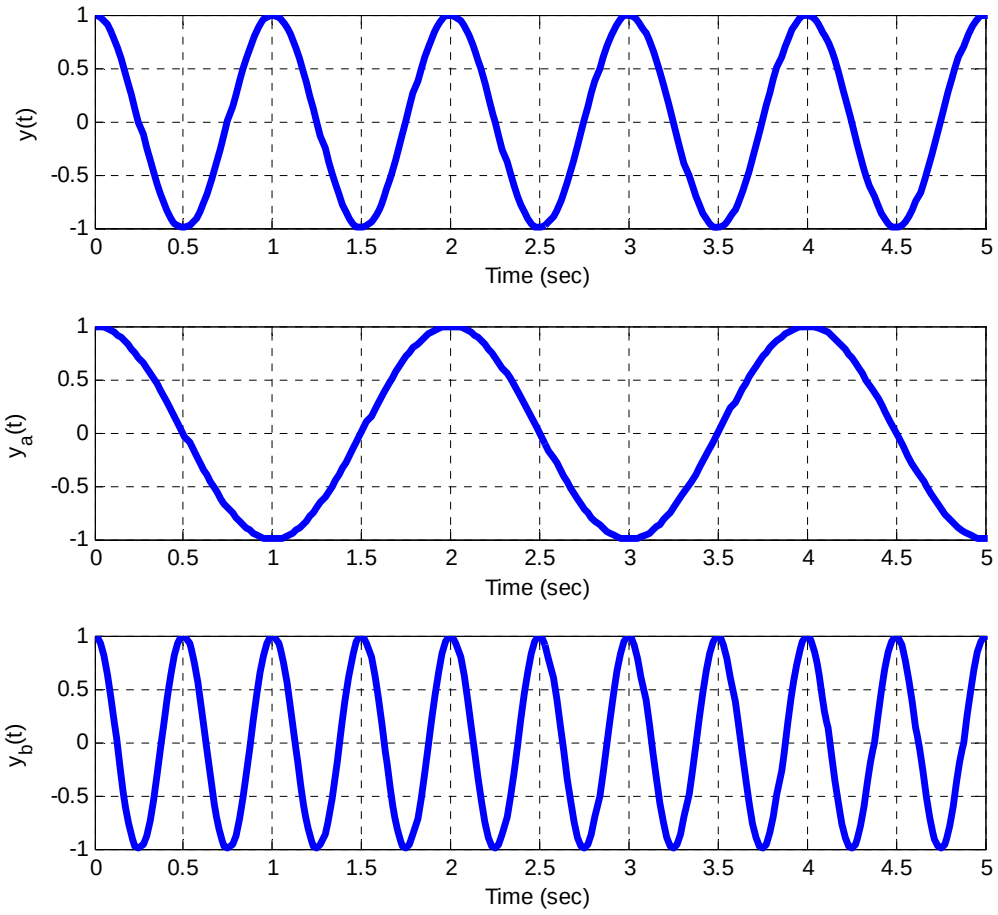
4) Which signal represents $x(1.5t)$? $x_a(t)$ $x_b(t)$ $x_c(t)$ $x_d(t)$ $x_e(t)$

5) Which signal represents $x(t-1)$? $x_a(t)$ $x_b(t)$ $x_c(t)$ $x_d(t)$ $x_e(t)$

6) Which signal represents a **compressed** $x(t)$? $x_a(t)$ $x_b(t)$ $x_c(t)$ $x_d(t)$ $x_e(t)$

7) Which signal represents an **expanded** $x(t)$? $x_a(t)$ $x_b(t)$ $x_c(t)$ $x_d(t)$ $x_e(t)$

In the following figure, the original signal $y(t)$ is in the top panel



8) Which signal has the highest frequency? $y(t)$ $y_a(t)$ $y_b(t)$

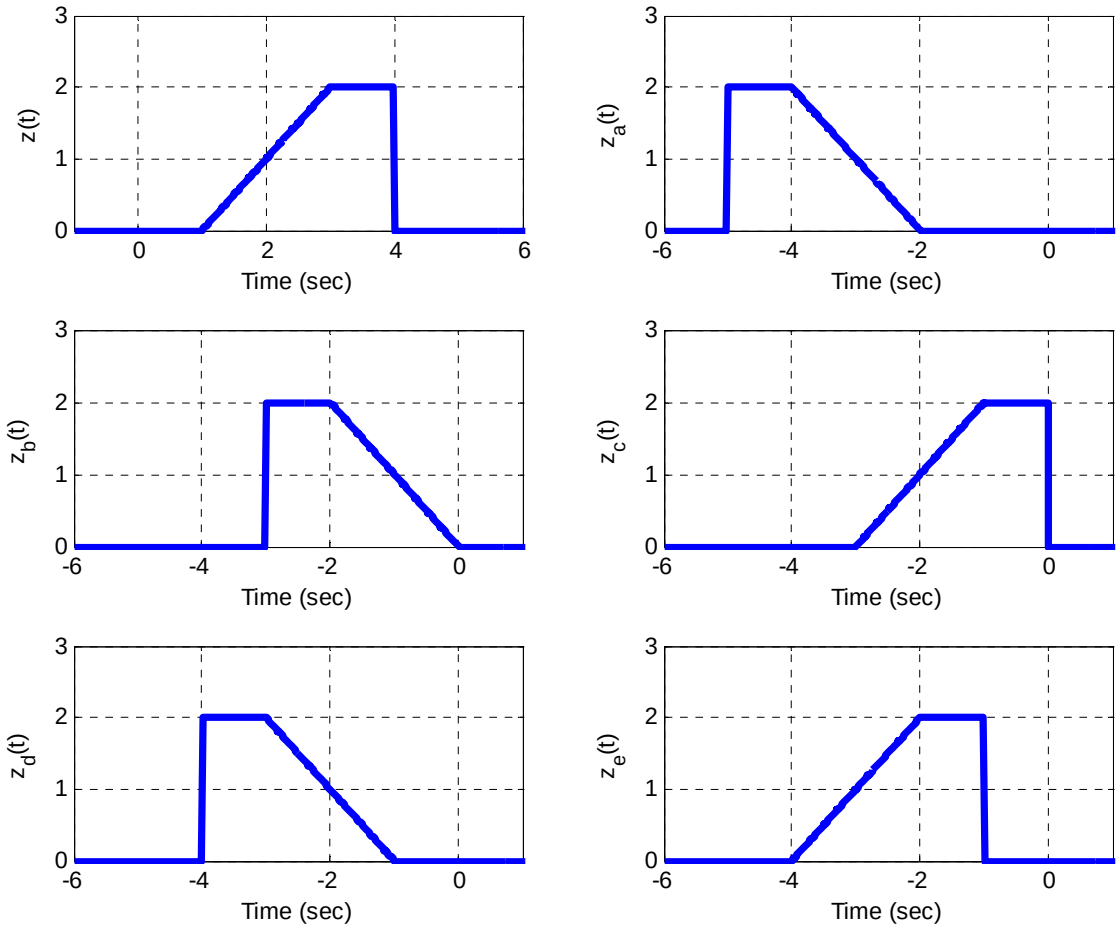
9) Which signal has the lowest frequency? $y(t)$ $y_a(t)$ $y_b(t)$

10) $y(t) = y_a(ct)$ for what value of c ? $c = 0.5$ $c = 1.0$ $c = 1.5$ $c = 2.0$

11) $y(t) = y_b(ct)$ for what value of c ? $c = 0.5$ $c = 1.0$ $c = 1.5$ $c = 2.0$

12) Which signal is a **compressed** version of $y(t)$? $y_a(t)$ $y_b(t)$

The original signal z(t) is in the top left panel.



13) Which of the above signals represents $z(-t)$? $z_a(t)$ $z_b(t)$ $z_c(t)$ $z_d(t)$ $z_e(t)$

14) Which of the above signals represents $z(-t+1)$ $z_a(t)$ $z_b(t)$ $z_c(t)$ $z_d(t)$ $z_e(t)$