

### Assignment 1 Solution

(1)

a)  $x = 27$

b)  $x = 80$

c)  $x = 9$

d)  $x = 1$

(2)

a)  $\frac{2y-2x-1}{y+1}$

b)  $4y + \frac{x}{2}$

(3)

a)  $s(t) = 4 \sin(2t + \frac{\pi}{2}) + \sin(4t + \frac{\pi}{2}) + 3 \sin(4t)$

b)

	$4 \sin(2t + \frac{\pi}{2})$	$\sin(4t + \frac{\pi}{2})$	$3 \sin(4t)$
A	4 V	1 V	3 V
f	$1/\pi$ Hz	$2/\pi$ Hz	$2/\pi$ Hz
$\Theta$	$\pi/2$ rad	$\pi/2$ rad	0 rad

c) and d) see next page

(4)

a)  $C = 2.76$  kbps

b)  $C = 11.3$  kbps

(5) 17.7 km/hr

(3c) and (3d)

