


## Sections 5.3, 5.4

1. Complete the following table. Make a note of whether the change is on the input or the output.

$x$	-4	-2	-1	0	1	2	4	8
$f(x)$	2	4	6	8	10	12	14	16
$2f(x)$	4		12					
$\frac{1}{2}f(x)$	1				5			
$-2f(x)$	-4						-28	
$f(2x)$			4					
$f \frac{1}{2}x$	4					10		
$f(-2x)$	16				4			

2. The point (6, -4) is on the graph of  $F(x)$ . Give the coordinates of one point on the graph of each of the following:

$F(x)$	$F(x + 8)$	$F(x) - 2$	$F(x-3)+5$	$-F(x)$	$F(-x)$	$5F(x)$	$F(3x)$	$F(\frac{2}{3}x)$
(6, -4)								

3. Suppose a function  $G(x)$  has domain  $-2 < x < 9$  and range  $-4 < F(x) < 1$ . Give the domain and range of each of the following functions.

Function	Domain	Range
$F(x)$	$-2 < x < 9$	$-4 < F(x) < 1$
$G(x) = F(x - 3)$		
$G(x) = F(x) - 3$		
$G(x) = -F(x)$		
$G(x) = F(-x)$		
$G(x) = 3F(x)$		
$G(x) = F(3x)$		

