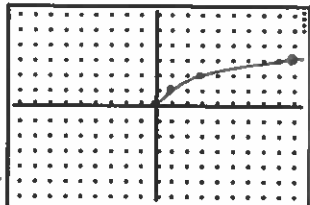
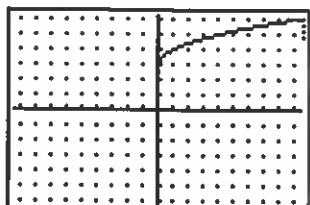
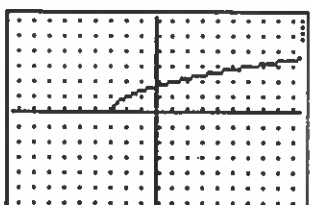
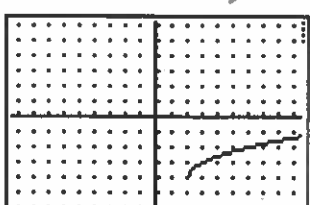
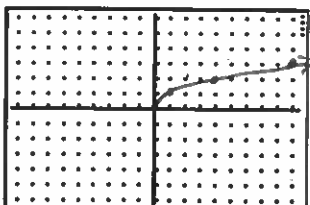
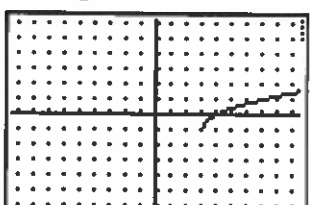
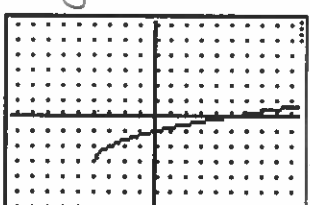
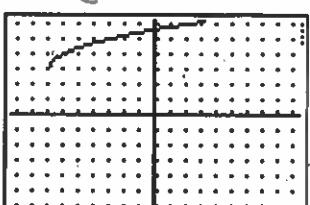
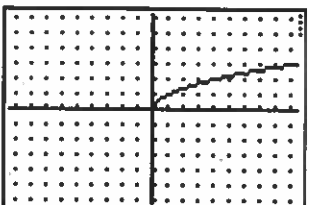

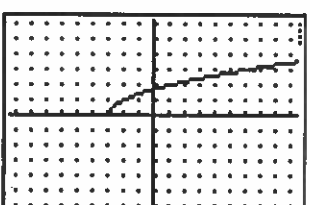
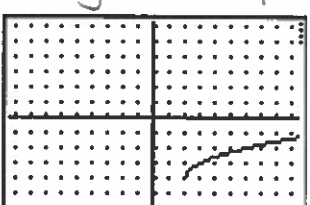
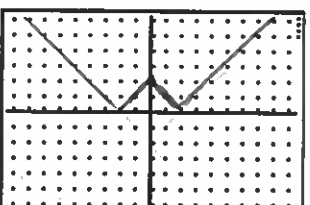
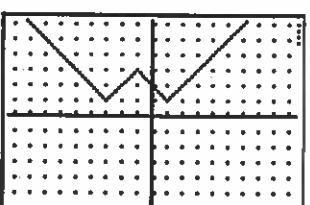
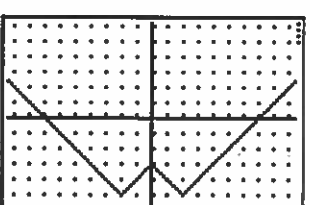
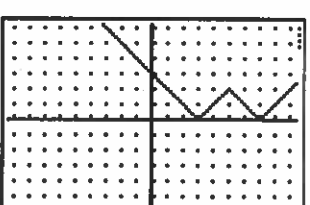
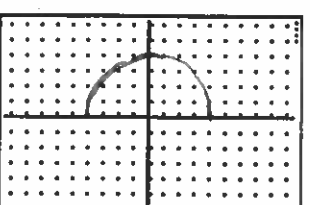
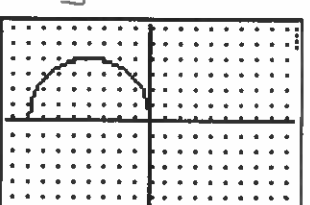
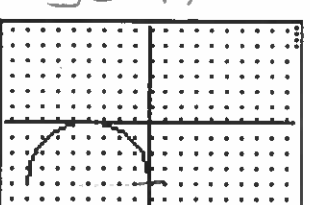
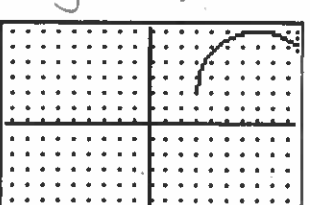
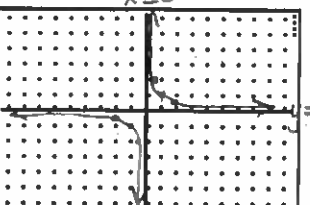
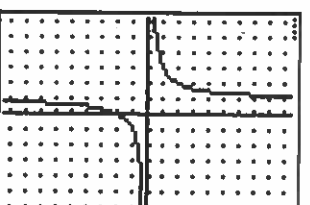
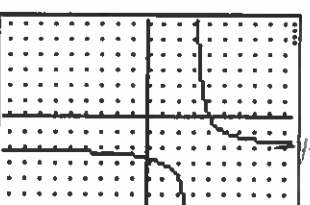
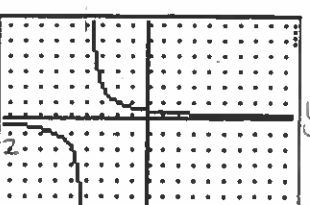


$f(x) = \sqrt{x}$	Sketch $y = f(x)$ 	$y = f(x) + 3$ 	$y = f(x+3)$ 	$y = f(x-2) - 4$ 
$g(x) = \sqrt{x}$	Sketch $y = g(x)$ 	$y = g(x-3) - 1$ 	$y = g(x+4) - 3$ 	$y = g(x+7) + 3$ 
	$y = g(x)$ 	$y = g(x) + 3$ 	$y = g(x+3)$ 	$y = g(x-2) - 4$ 
$h(x) = x - 2$	Sketch $y = h(x)$ 	$y = h(x+1) + 1$ 	$y = h(x) - 3$ 	$y = h(x-5)$ 
$j(x) = \sqrt{16-x^2}$	Sketch $y = j(x)$ 	$y = j(x+4)$ 	$y = j(x+4) - 4$ 	$y = j(x-7)$ 
$n(x) = \frac{1}{x}$	Sketch $y = n(x)$ $x=0$ 	$y = n(x) + 1$ 	$y = n(x-3) - 2$ 	$y = n(x+4)$ 

General Functions -

U3D3 Extra Practice Solutions

1. Describe how the graphs of each of the following functions could be obtained from the original graph of $y = f(x)$.

a) $y = f(x) + 4$ up 4

b) $y = f(x) - 7$ down 7

c) $y = f(x - 3)$ right 3

d) $y = f(x + 8)$ left 8

e) $y = f(x - 1) + 2$ right 1, up 2

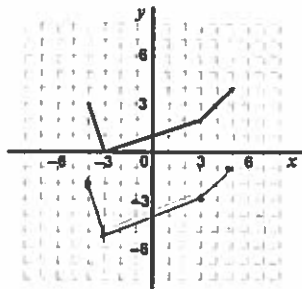
f) $y = f(x + 3) + 4$ left 3, up 4

g) $y = f(x + 5) - 6$ left 5,

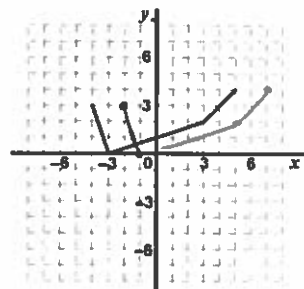
h) $y = f(x - 7) - 8$ right 7, down 8

2. In each graph below, $f(x)$ is given. Add the second function to each graph as indicated.

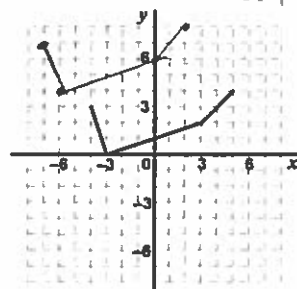
a) $f(x) - 5$ D 5



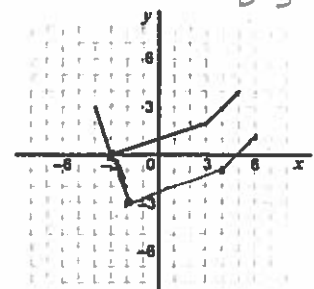
b) $f(x - 2)$ R 2



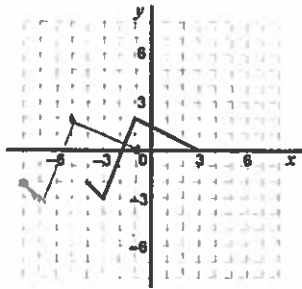
c) $f(x + 3) + 4$ L 3, U 4



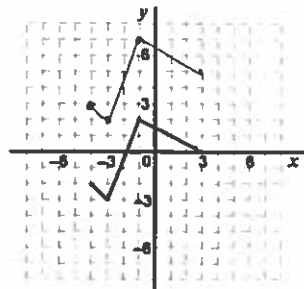
d) $f(x - 1) - 3$ R 1, D 3



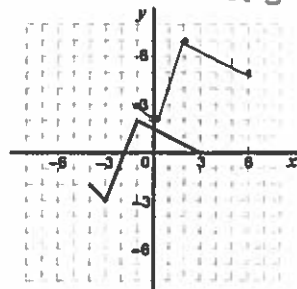
e) $f(x + 4)$ L 4



f) $f(x) + 5$ U 5



g) $f(x - 3) + 5$ R 3, U 5



h) $f(x + 2) - 5$ L 2, D 5

