

P.O.C.A. WONG SIU CHING SECONDARY SCHOOL
PURE MATHEMATICS
CALCULUS : FUNCTIONS
ASSIGNMENT 13

Date	Name	Grade / Score
		/15

1. Describe the graph of g in terms of f , with the aid of the software “*Graphmatica*”.

(a) $g(x) = f(x) + c$ for $c > 0$ and $c < 0$.

(b) $g(x) = f(x + k)$ for $k > 0$ and $k < 0$.

(c) $g(x) = -f(x)$.

(d) $g(x) = f(-x)$.

(e) $g(x) = \lambda f(x)$ for $\lambda > 1$ and $0 < \lambda < 1$.

(f) $g(x) = f(\lambda x)$ for $\lambda > 1$ and $0 < \lambda < 1$.

(g) $g(x) = |f(x)|$.

(h) $g(x) = f(|x|)$.

2. Complete the following tables with *Even*, *Odd*, *Both* or *Neither*. Please give reasons to support your answer. For the following, let f and g be functions defined on \mathbf{R} .

(a)

$f + g$		g	
		even	odd
f	even		
	odd		

(b)

$f \circ g$		g	
		even	odd
f	even		
	odd		