5. [15 points] Consider the functions $f(x)$, $g(x)$ and $j(x)$ given by the tables below

x	-1	1	3	5
$f(x)$	11.1	6.5	4.1	3
$g(x)$	2.4	1.7	1	0.3
$j(x)$	0.25	0.5	1	2

Assume that all the functions above are invertible.

a. [2 points] Which function(s) could be concave up? Circle all possible answers.

$f(x)$ $g(x)$ $j(x)$ None of these

b. [2 points] Which function(s) could be a linear function? Circle all possible answers.

$f(x)$ $g(x)$ $j(x)$ None of these

c. [2 points] Which function(s) could be an exponential function? Circle all possible answers.

$f(x)$ $g(x)$ $j(x)$ None of these

d. [4 points] Compute the value of the following quantities. If there is not enough information to compute the values write "Undefined".

$g(f^{-1}(3))$=_____ $(j(g(3)))^{-1}$=_____

e. [3 points] Let $Q(t) = 3t^2 + 1$ and h be a constant. Find a simplified formula for $\dfrac{Q(t+h) - Q(t)}{h}$. Your answer may depend on t and h.

Answer=_____

f. [2 points] Let $H(x) = \cos(1 + 2\log(x))$ and $G(x) = \log(x)$. Find a function $F(x)$ such that $H(x) = F(G(x))$.

$F(x)$=_____