Mathematics 11UC

1.3 – Function Notation

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$y = 3x + 5 \Longrightarrow f(x) = 3x + 5$

$y \Rightarrow f(x)$

"f of x" or "f at x"

$x = 6$

$y = 3(6) + 5$

$y = 18 + 5$

$y = 23$

$f(6) = 3(6) + 5$

$f(6) = 23$

$(6, 23)$

$f(x) = -2x + 10$

a) $f(3) = -2(3) + 10$

$f(3) = -6 + 10$

$f(3) = 4$

b) $f(5) - f(1)$

$-2(5) + 10 - (-2(1) + 10)$

$-10 + 10 - (-2 + 10)$

$0 - 8 = -8$

c) $3f(-4)$

$= 3(-2(-4) + 10)$

$= 3(8 + 10)$

$= 3(18) = 54$

d) $f(x-3) = -2(x-3) + 10$

$= -2x + 6 + 10$

$= -2x + 16$

$f(x) = -2x + 10$

e) If $f(x) = 20$, what is x?

$y = 20$

$20 = -2x + 10$

$-10 \quad -10$

$10 = -2x$

$\frac{}{-2} \quad \frac{}{-2}$

$-5 = x$

$\therefore f(-5) = 20$

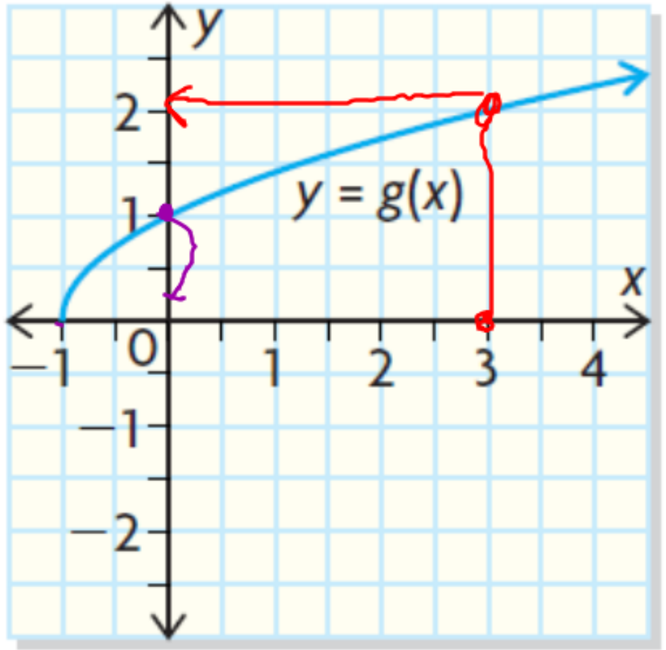
For the function shown in the graph, determine each value.

a) $g(3)$ $=2$ $(3,2)$

b) $g(-1)$ $=0$

c) x if $g(x) = 1$ $x=0$

d) the domain and range of $g(x)$



Domain: $x \geq -1$

Range: $g(x) \geq 0$

$g(x)$