(39) $f(x) = -\frac{1}{4}x + \frac{1}{4}$

$4\left(x = -\frac{1}{4}y + \frac{1}{4}\right)$

$4x = -y + 1$

$4x - 1 = -y$

$\boxed{-4x + 1 = y \quad f^{-1}(x)}$

(40) $f(x) = \frac{5}{4}x - \frac{15}{4}$

$4\left(x = \frac{5}{4}y - \frac{15}{4}\right)$

$4x = 5y - 15$

$4x + 15 = 5y$

$\frac{4x+15}{5} = y$

$\boxed{\frac{4}{5}x + 3 = f^{-1}(x)}$

(41) $f(g(x)) = 3(-x^2 - 3x) - 5$

$= \boxed{-3x^2 - 9x - 5}$

(42) $f \circ g(n) = f(g(n))$

$(2n-4)^3 - 3(2n-4)^2$

$8n^3 - 48n^2 + 96n - 64$

$-3(4n^2 - 16n + 16)$

$8n^3 - 48n^2 + 96n - 64 - 12n^2 + 48n - 48$

$\boxed{8n^3 - 60n^2 + 144n - 112}$

(43) $g \circ g(t) = g(g(t))$

$(t^2 + 5t)^2 + 5(t^2 + 5t)$

$t^4 + 10t^3 + 25t^2 + 5t^2 + 25t$

$\boxed{t^4 + 10t^3 + 30t^2 + 25t}$

(44) $(h \circ g)(n) = h(g(n))$

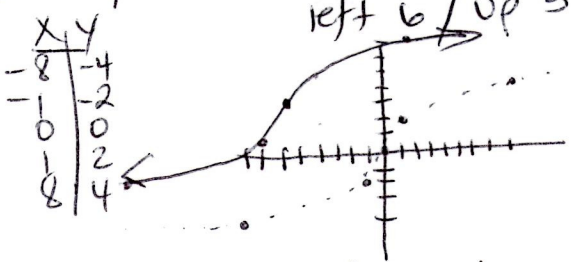
$4(n^3 - 4n^2) - 3$

$\boxed{4n^3 - 16n^2 - 3}$

(45) $y = 2\sqrt[3]{x+6} + 3$

left 6 / up 3

x	y
-8	-4
-1	-2
0	0
1	2
8	4



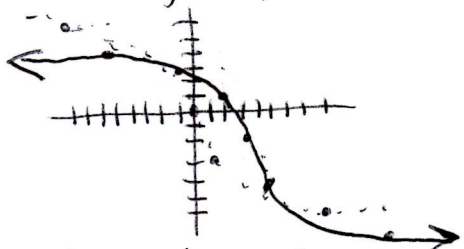
D: all real numbers

R: all real numbers

(46) $y = -3\sqrt[3]{x-3} - 2$

right 3 / down 2

x	y
-8	6
-1	3
0	0
1	-3
8	-6



D: all real numbers

R: all real numbers