$f(x) = x + 7$ $\quad g(x) = x^2 - 2x - 3$

$[f \circ g](x) = f[g(x)] = f(x^2 - 2x - 3) = (x^2 - 2x - 3) + 7$

$[f \circ g](x) = x^2 - 2x + 4$

$[g \circ f](x) = g[f(x)] = g(x+7) = (x+7)^2 - 2(x+7) - 3$

$= (x+7)(x+7) - 2(x+7) - 3$

$= x^2 + 7x + 7x + 49 - 2x - 14 - 3$

$[g \circ f](x) = x^2 + 12x + 32$

$f(x) = 2x - 5$ $\quad g(x) = x^2 + 4$ $\quad h(x) = -3x + 2$

$[g \circ h](2) = g[h(2)] = g(-4) = (-4)^2 + 4 = 20$

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

$(h \circ f)(-4) = h[f(-4)] = h(-13) = -3(-13) + 2 = 41$

$f(-4) = 2(-4) - 5 = -13$

$(f \circ g)(-5) = f[g(-5)] = f(29) = 2(29) - 5 = 53$

$g(-5) = (-5)^2 + 4 = 29$

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