

$(g \circ g)(x) = g(\sqrt[4]{x}) = \sqrt[4]{\sqrt[4]{x}} = \sqrt[16]{x}$ .  $(g \circ g)(x)$  is defined whenever both  $g(x)$  and  $g(g(x))$  are defined; that is, whenever  $x \geq 0$ . So the domain is  $[0, \infty)$ .

41.  $(f \circ g \circ h)(x) = f(g(h(x))) = f(g(x-1)) = f(\sqrt{x-1}) = \sqrt{x-1} - 1$

43.  $(f \circ g \circ h)(x) = f(g(h(x))) = f(g(\sqrt{x})) = f(\sqrt{x} - 5) = (\sqrt{x} - 5)^4 + 1$