Answer on Question #75140, Math / Calculus

1) Find the values of the following functions

a) $g(t) = t/(2t+6)$

i) $g(0) = \dfrac{0}{0+6} = 0$

ii) $g(-3) = \dfrac{-3}{2(-3)+6} = DNE\ (undefined)$

iii) $g(10) = \dfrac{10}{2(10)+6} = \dfrac{5}{13}$

vi) $g(t+h) = \dfrac{t+h}{2(t+h)+6} = \dfrac{t+h}{2t+2h+6}$

v) $g(t^2-3t+1) = \dfrac{t^2-3t+1}{2(t^2-3t+1)+6} = \dfrac{t^2-3t+1}{2t^2-6t+8}$

b) $R(x) = \sqrt[4]{3+x}/(x+1)$

i) $R(0) = \dfrac{\sqrt[4]{3+0}}{0+1} = \sqrt[4]{3}$

ii) $R(6) = \dfrac{\sqrt[4]{3+6}}{6+1} = \dfrac{\sqrt{3}}{7}$

iii) $R(-9) = \dfrac{\sqrt[4]{3-9}}{-9+1} = DNE(undefined)$

iv) $R(x+1) = \dfrac{\sqrt[4]{3+x+1}}{x+1+1} = \dfrac{\sqrt[4]{4+x}}{x+2}$

vi) $R(x^4-3) = \dfrac{\sqrt[4]{3+x^4-3}}{x^4-3+1} = \dfrac{|x|}{x^4-2}$

v) $R\left(\dfrac{1}{x}-1\right) = \dfrac{\sqrt[4]{3+\dfrac{1}{x}-1}}{\dfrac{1}{x}-1+1} = x\left(\sqrt[4]{2+\dfrac{1}{x}}\right)$