

October 14, 2015

S.1.1

#20) $f(x) = x^2 - x - 1 \quad (-\infty, \infty)$
 $g(x) = \sqrt{x-5}$

$$(f \circ g)(x) = f(g(x))$$

$$= (x^2 - x - 1)^2 - (x^2 - x - 1) - 1$$

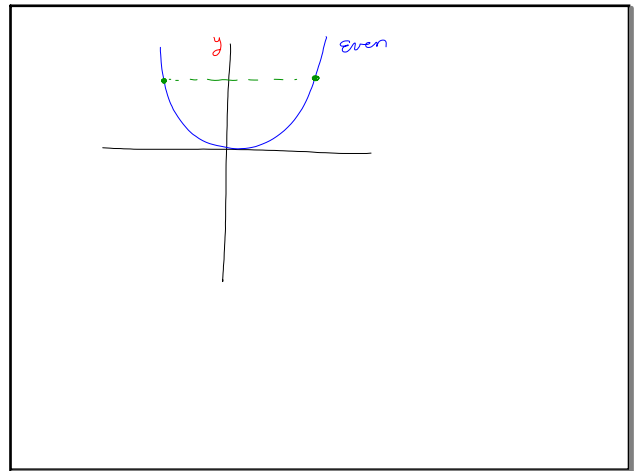
$$= (x^2 - x - 1)(x^2 - x - 1) - x^2 + x + 1 - 1$$

$$= \boxed{x^4 - x^3 - x^2} \quad \boxed{-x^2 + x + 1}$$

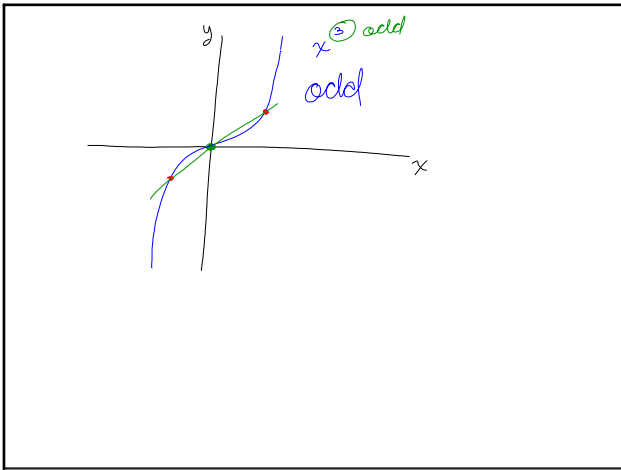
$$= x^4 - 2x^3 - x^2 + 2x + 1 - x^2 + x$$

$$= x^4 - 2x^3 - 2x^2 + 3x + 1$$

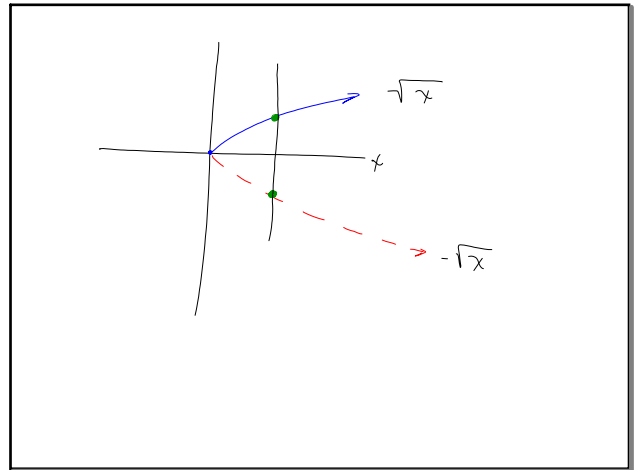
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