February 17, 2017

$9 - 3 \div \frac{1}{3} + 1$

$9 - 9 + 1$

1

Feb 17-9:57 AM

Feb 17-10:05 AM

$f(x) = x^2 + 7x - 4$

$\frac{(x+h)^2 + 7(x+h) - 4 - (x^2 - 7x - 4)}{h}$

Feb 17-10:05 AM

Composition of Functions

$f(x)$ & $g(x)$

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

Composition

$g(x) = 2x \quad h(x) = x^2 - 4x \quad k(x) = \sqrt{x-1}$

#1) $(g \circ k)(x) = g(k(x))$

$= g(\sqrt{x-1})$

$= 2(\sqrt{x-1})$

$= 2\sqrt{x-1}$

$x - 1 \geq 0$

$x \geq 1$

$D: [1, \infty)$

Feb 17-10:08 AM

#2) $(k \circ g)(x) = k(g(x))$

$= k(2x)$

$= \sqrt{(2x) - 1}$

$= \sqrt{2x - 1}$

$2x - 1 \geq 0$

$2x \geq 1$

$x \geq 1/2$

$D: [1/2, \infty)$

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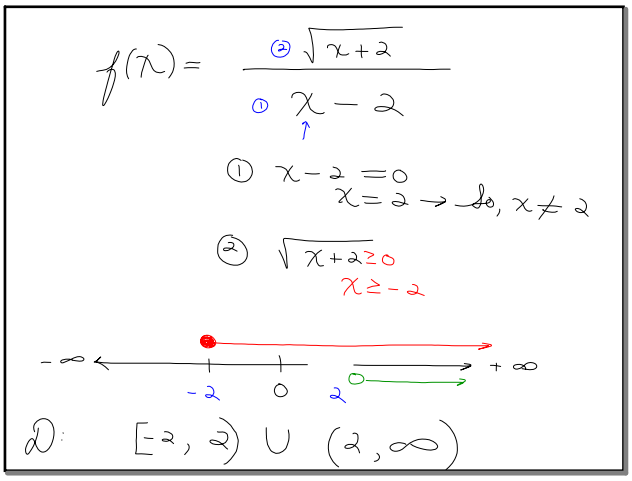
#4) $(h \circ k)(x) = h(k(x))$

$= h(\sqrt{x-1})$

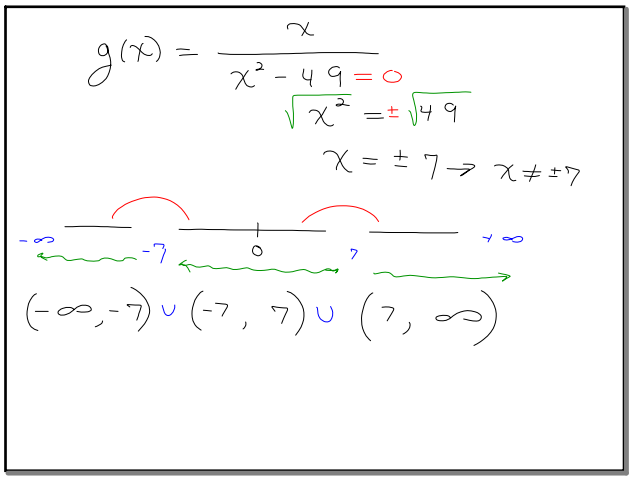
$= (\sqrt{x-1})^2 - 4(\sqrt{x-1})$

$= x - 1 - 4\sqrt{x-1}$

Feb 17-10:22 AM



Feb 17-10:27 AM



Feb 17-10:39 AM

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