

September 23, 2016

#4)  $f(x) = \frac{x}{x^2-9} = 0$

$\sqrt{x^2-9}$

$x = \pm 3$

$-\infty$   $-\infty$   $-3$   $3$   $+\infty$

$(-\infty, -3) \cup (-3, 3) \cup (3, \infty)$

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$g(x) = \frac{1}{x+1}$  &  $h(x) = \frac{x}{x+1}$

#15)  $(h-g)(x) = h(x) - g(x)$

$= \frac{x}{x+1} - \frac{1}{x+1}$

$= \frac{x-1}{x+1}$

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

$= \frac{1}{h(x)+1}$

$= \frac{1}{\left(\frac{x}{x+1}\right) + 1}$

$= \frac{1}{\frac{x+x+1}{x+1}}$

$= \frac{1 \cdot x+1}{\frac{2x+1}{x+1}}$

$= \frac{x+1}{2x+1}$

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