

March 9, 2016

$$f(x) = 2x - 6 \quad g(x) = \frac{1}{x+4}$$

$$(f \circ g)(x) = \frac{2}{1} \left(\frac{1}{x+4} \right) - 6$$

$$= \frac{2}{x+4} - \frac{6}{1}$$

$$= \frac{2 - 6x - 24}{x+4}$$

$$= \frac{-6x - 22}{x+4}$$

$x+4=0$
 $x = -4$

$D: (-\infty, -4) \cup (-4, \infty)$

Mar 9-11:15 AM

$$(g \circ f)(x) = \frac{1}{2x-6+4}$$

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

$2x-2=0$
 $x=1$

$D: (-\infty, 1) \cup (1, \infty)$

Mar 9-11:20 AM

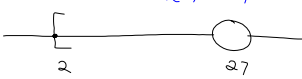
$$m(x) = \frac{1}{x-5} \quad p(x) = \sqrt{x-2}$$

$$(m \circ p)(x) = \frac{1}{\sqrt{x-2} - 5}$$

① $\sqrt{x-2} \geq 0$
 $x \geq 2$

② $\sqrt{x-2} - 5 = 0$
 $(\sqrt{x-2})^2 = (5)^2$
 $x-2 = 25$
 $x \neq 27$

$D: [2, 27) \cup (27, \infty)$



Mar 9-11:21 AM

$$(m \circ m)(x) = \frac{1}{\frac{1}{x-5} - 5}$$

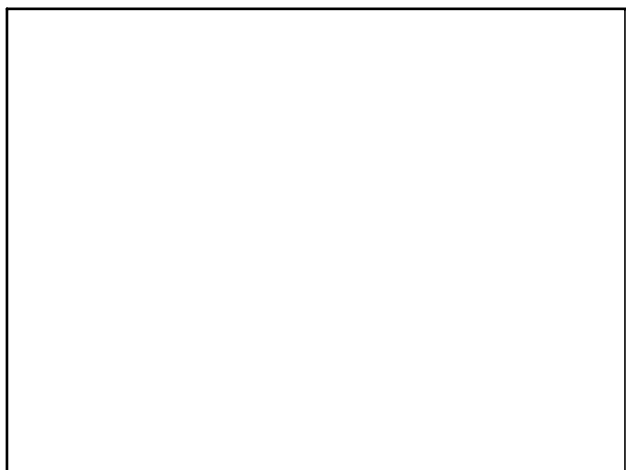
$$= \frac{1}{\frac{1-5x+25}{x-5}}$$

$$= \frac{1}{\frac{-5x+26}{x-5}}$$

$x-5=0$
 $x \neq 5$

$D: (-\infty, 5) \cup (5, \infty)$

Mar 9-11:26 AM



Mar 9-11:32 AM