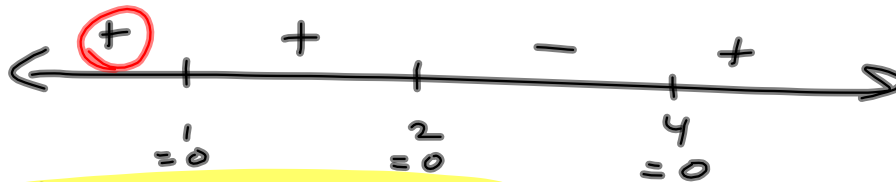


Added Fall '11 Final to Practice Tests link.
Also scannage on the tests u took.

$$4(x-1)^2(x-2)(x-4)^3 \geq 0 \quad \text{want } +$$



$$(-\infty, 1] \cup [1, 2] \cup [4, \infty)$$

$$(-\infty, 2] \cup [4, \infty)$$

$$\frac{4(x-1)^2}{(x-2)(x-4)^3} \geq 0$$

can't let $x=2$ or $x=4$
 $(-\infty, 2) \cup (4, \infty)$

Find Domain

$$\sqrt{4(x-1)^2(x-2)(x-4)^3}$$

$$\frac{4(x-1)^2}{(x-2)(x-4)^3}$$

$\mathcal{D} =$

$$\begin{array}{ccccccc}
 & & & & 1 & & \\
 & & & & 1 & & \\
 & & & 1 & 2 & 1 & \\
 & & 1 & 3 & 3 & 1 & \\
 & 1 & 4 & 6 & 4 & 1 & \\
 1 & & & & & &
 \end{array}$$


$(2r + 3t^2)^4 =$

$1(2r)^4(3t^2)^0 + 4(2r)^3(3t^2)^1 + 6(2r)^2(3t^2)^2$
 $+ 4(2r)(3t^2)^3 + 1(2r)^0(3t^2)^4$

$= 2^4 r^4 + 4(2^3 r^3)(3t^2) + 6(2^2 r^2)(3^2 (t^2)^2)$
 $+ 4(2r)(3^3 (t^2)^3) + 3^4 (t^2)^4$

$= 16r^4 + 96r^3t^2 + 216r^2t^4 + 216rt^6 + 81t^8$

4 · 2³ · 3



$$f(x) = \sqrt{x+6}, \quad g(x) = x^2 - 2x + 2$$

$$* \mathcal{D}(f) = \{x \mid x+6 \geq 0\} = \{x \mid x \geq -6\} = [-6, \infty)$$

$$* \mathcal{D}(g) = \mathbb{R} = (-\infty, \infty)$$

$$\begin{aligned} (f \circ g)(x) &= f(g(x)) \\ &= \sqrt{(x^2 - 2x + 2) + 6} \\ &= \sqrt{x^2 - 2x + 8} \end{aligned}$$

$$\begin{aligned} (g \circ f)(x) &= g(f(x)) \\ &= f(x)^2 - 2f(x) + 2 \\ &= (\sqrt{x+6})^2 - 2\sqrt{x+6} + 2 \end{aligned}$$

$$\begin{aligned} \mathcal{D}(f \circ g)(x) &= \{x \mid x \in \mathcal{D}(g) \text{ AND } g(x) \in \mathcal{D}(f)\} \\ &= \{x \mid x \in \mathbb{R} \text{ and } x^2 - 2x + 2 \geq -6\} \end{aligned}$$

$$\begin{aligned} x^2 - 2x + 2 &\geq -6 \\ x^2 - 2x + 8 &\geq 0 \end{aligned}$$

$x^2 - 2x + 8 \geq 0$
ALWAYS!

$$\begin{aligned} x^2 - 2x + 1 &= -8 + 1 \\ (x-1)^2 &= -7 \\ \text{No real solution!} \end{aligned}$$

$$\begin{aligned} a &= 1, b = -2, c = 8 \\ b^2 - 4ac &= (-2)^2 - 4(1)(8) \\ &= 4 - 32 \\ &= -28 \text{ No real sol'n.} \end{aligned}$$

This shows that

$$\begin{aligned} \mathcal{D}(f \circ g) &= \{x \mid x \in \mathbb{R} \text{ and } x \in \mathbb{R}\} \\ &= \mathbb{R} \end{aligned}$$

$$f(x) = \frac{x-3}{x-7} \quad g(x) = \sqrt{x+2}$$

$$D(f) = \{x \mid x \neq 7\}$$

$$D(g) = \{x \mid x \geq -2\}$$

$$(f \circ g)(x) = \frac{\sqrt{x+2} - 3}{\sqrt{x+2} - 7}$$

$$D(f \circ g) = \{x \mid \boxed{x \in D(g)} \text{ and } \boxed{g(x) \in D(f)}\}$$

$$= \{x \mid x \geq -2 \text{ and } \sqrt{x+2} \neq 7\}$$

$$= \{x \mid x \geq -2 \text{ and } x \neq 47\}$$

$$\sqrt{x+2} \neq 7 \quad = [-2, 47) \cup (47, \infty)$$

$$x+2 \neq 49$$

$$x \neq 47$$

Kris Z
 Antonio
 Rosa
 Maria
 Mattie Kylee
 Ellie
 Jordan Ashley
 Lauren Marshall
 Dexter
 Myles
 Ashley
 Blase

Quiz C8



Teacher Evals.

Fall '11 } Finals
 Fall '10 } online

~~Practises~~

Practice Tests

Tests-U-Took