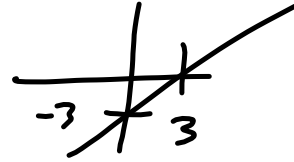


What's the domain of

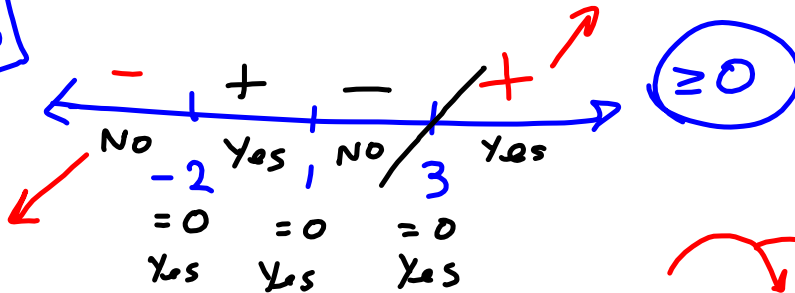
$$f(x) = \sqrt{(x-1)(x+2)(x-3)}$$

Need:

$$(x-1)(x+2)(x-3) \geq 0$$



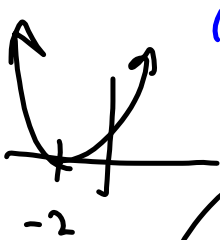
Sign Pattern



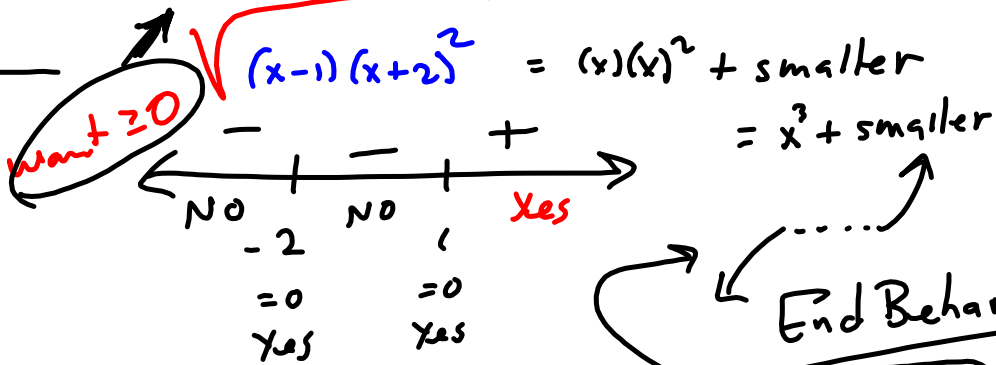
$$D = [-2, 1] \cup [3, \infty)$$

3

$$(x-1)^5(x+2)^{17}(x-3)^1 = x^3 + \text{lower degree}$$



Domain of  $(x-1)(x+2)(x-3)$



$$\{-2\} \cup [1, \infty)$$

$$\lim_{x \rightarrow \infty} x^3 = \infty$$

$$\lim_{x \rightarrow -\infty} x^3 = -\infty$$

You don't have to watch *all* my videos, but in this chapter, especially, there are some ideas Dugopolski doesn't really explore, and some synthesis - like domain of a big ugly square root function - that you just won't see on MyLab or in the text.

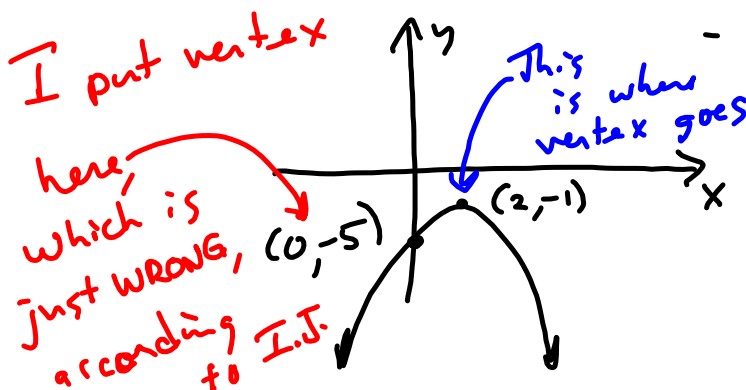
Good idea is to watch my videos when you first come up to a type of problem. There's the take-forever book way, and a more elegant, take-a-step back way, where you know what you're looking at, more.

#s 19 - 27 on 3.5 will be done by 10:00 a.m.

Test 3 take-home videos and notes are up.

Test 3 sit-down videos and notes will be up by 3 p.m., this afternoon.

#3 video on the Writing project #3:



$$\begin{array}{l} \text{Right 2 Down 1} \\ \underline{\quad b \quad} \quad \underline{\quad b \quad} \\ - (x-2)^2 - 1 \end{array}$$

$$\begin{aligned} f(0) &= -(-2)^2 - 1 \\ &= -4 - 1 \\ &= -5 \end{aligned}$$