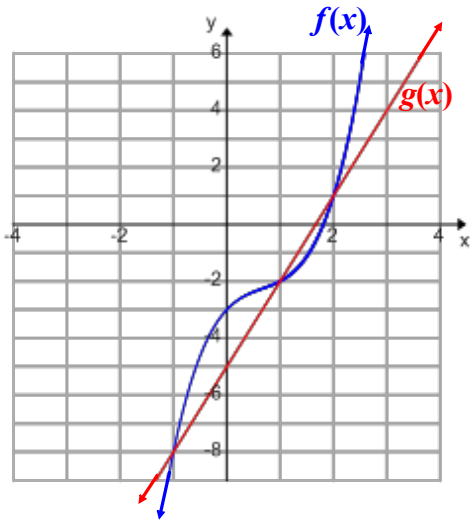
4.3 Solving Polynomial Inequalities (Day 2)

Math Learning Target:

"By the end of class, I can solve any polynomial inequality."

Ex. 1: For the functions $f(x)$ and $g(x)$, determine graphically the intervals for:



a) $f(x) > g(x)$

b) $g(x) > f(x)$ or $f(x) < g(x)$

c) $f(x) = g(x)$

Entertainment: **Do #7 first...**pp.227-228 #7*ef, 3, 8, 9, 12**, 13**, 14, 15
Challenge: #18
* use desmos to confirm your answers;
** the text has answers rounded in the back, but you must state your answers as exact values

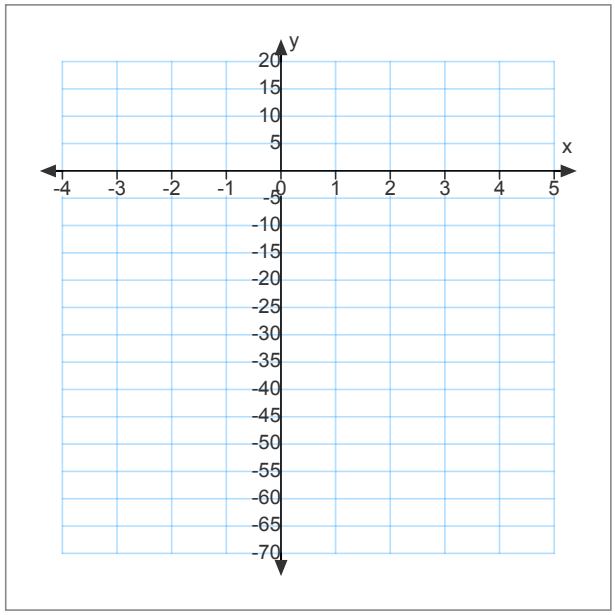
Ex. 2: Determine the intervals for $g(x) < f(x)$ given that

$f(x) = x^4 - 5x^3 + 4x^2 + 17x - 40$

$g(x) = 2x^3 - 5x^2 - 10x + 14$

$y = x^4 - 5x^3 + 4x^2 + 17x - 40$

$y = 2x^3 - 5x^2 - 10x + 14$



$y = x^4 - 7x^3 + 9x^2 + 27x - 54$