

### 4.3 Solving Polynomial Inequalities (Day 2)



#### Math Learning Target:

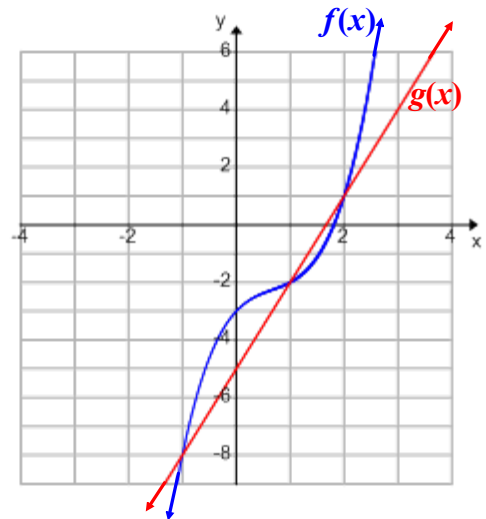
"By the end of class, I can solve any polynomial inequality."

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

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

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

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



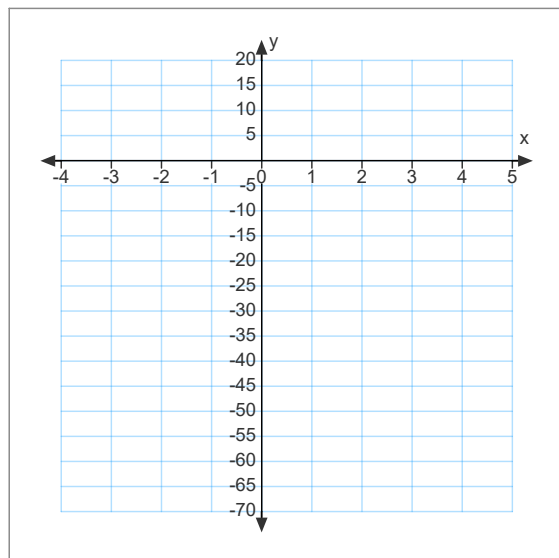
**Ex. 2:** Determine the intervals for  $g(x) < f(x)$  given that

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

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

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

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



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

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