

Append A #23

$$4x < 2x + 1 \leq 3x + 2$$

really short hand for

$$4x < 2x + 1 \quad \text{and} \quad 2x + 1 \leq 3x + 2$$

$$2x < 1$$

$$x < \frac{1}{2}$$

$$-1 \leq x$$

and

$$-1 \leq x$$

$$\text{ans} \quad -1 \leq x \text{ and } x < \frac{1}{2}$$

$$\text{ie} \quad -1 \leq x < \frac{1}{2}$$

C # 33

$$y = 3x$$

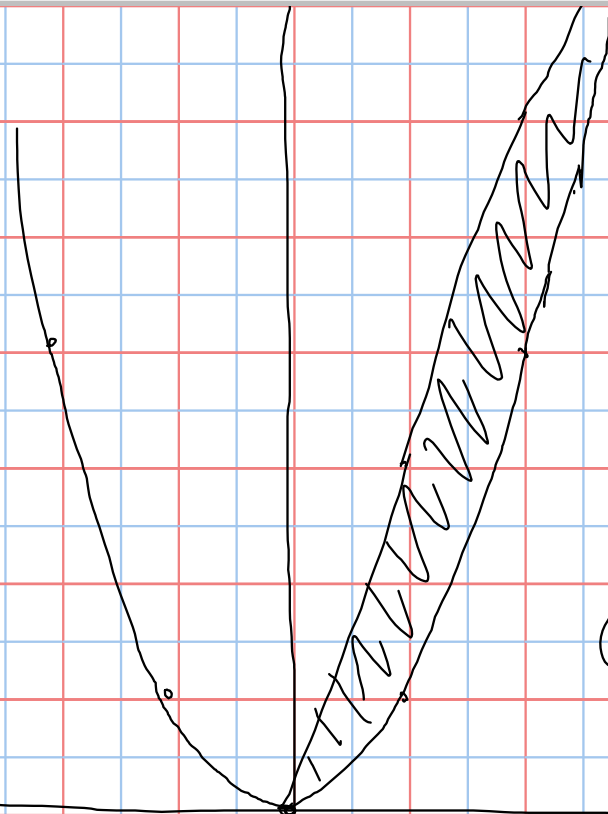
$$y = x^2$$

$$y = 3x$$

$$y = x^2$$

x	y
0	0
1	1
2	4
3	9

$(0,0)$



$(3,9)$  up there

Set

$$3x = x^2$$

$$0 = x^2 - 3x \quad \text{and}$$

$$0 = x(x-3) \quad \text{solve}$$

$$\text{so } x = 0, \text{ or } x = 3$$

intersections  
are

$(0,0)$  and  $(3,9)$

Section 1.2.

A polynomial is a function of the form

$$f(x) = a_n x^n + a_{n-1} x^{n-1} + \dots + a_1 x^1 + a_0$$

eg  $g(x) = 5x^8 - 2x^5 + \frac{1}{2}x^3 - 3.96x^2 + x - 4.1$

$$n=8, \quad a_n = a_8 = 5, \quad a_7 = 0, \quad a_6 = 0, \quad a_5 = -2$$

$$a_4 = 0, \quad a_3 = \frac{1}{2}, \quad a_2 = -3.96, \quad a_1 = 1, \quad a_0 = -4.1$$