Chapter 1

Algebra

We need to remember how to factor and expand.

Example. Factor the following polynomial expressions:

1. $x^2 - 5x + 6$

2. $4x^2 - 12x + 9$

3. $x^2 - 16$

4. $x^3 + 9x^2 + 27x + 27$

5. $x^3 - 8$

Example. Expand the following products:

1. $(x+3)(x^2-5x+2)$

2. $(x+4)^2$

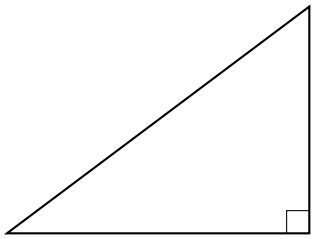
3. $(x+4)(x-4)$

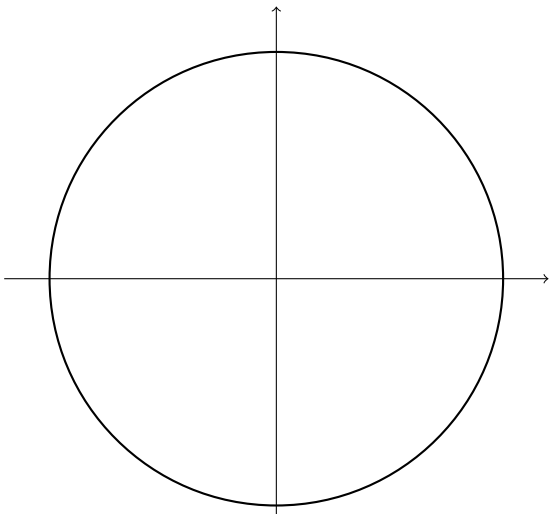
Example. Solve the equations $x^2-5x+6=0$ and x^2-3x+1.

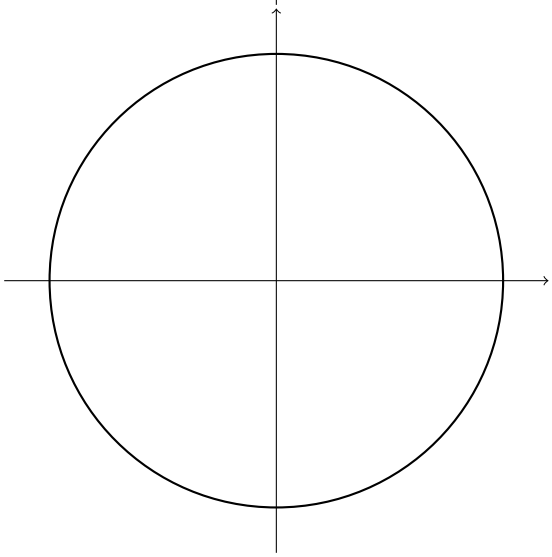
Example. Complete the square for the expression x^2+5x-1.

Trigonometry

There are two interpretations of the trig functions:







Trig Identities

We can mix trig and algebra:

Example. Solve the equation $\cos 2\theta - \cos \theta = 0$