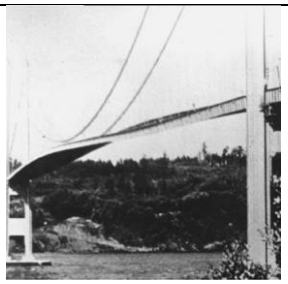
# Real Life Applications of Complex Numbers

- Complex Numbers began to be used around the 16th century.
- Two mathematicians are credited with developing them from the beginning, Girolamo Cardano and Niccolo Tartaglia (shown on the right).
- Their development allowed us to handle square roots of negative numbers and also useful for representing two things at the one time e.g. phase and amplitude of electric current

1) One application of Complex Numbers is in the study of resonance in bridges in Civil Engineering. The movement of the wind or air over and under a bridge can cause it to start swaying.



2) Complex Numbers are used in astronomy to predict solar and lunar eclipses. The study of how things move in the universe involves looking at many different factors and complex numbers can allow us to analyse these factors.

3) In medicine, complex numbers arise when an ultrasaound signal is reflected from a foetus developing in the womb. When a sound wave passes through the bones in the ear, complex numbers can also be used to represent this.

4) Complex Numbers are very useful in Marine Biology, particularly in the analysis of the song of a whale as it passes through ocean water.

5) CGI or computer generated imagery, used in the film industry, is another important application of complex numbers.