Problem solving in one form or another has always been an integral part of man’s existence, as has a desire to find one’s way in the world. Systematic observation, documentation (even as rudimentary as marks inscribed on a bone) and logical conclusions were employed by the ancients long ago to understand the natural world and eventually lead the way to exploring the unknown. This presentation will trace the path of the mathematical methods used from the first astronomical observations through the development of more formal systems, to the computer revolution and on to today’s exploration. Technical advances often brought new means for artistic expression as well, so we will also examine some of the beautiful graphics and ingenious navigational instruments and tools that emerged alongside the pivotal mathematical developments. (Received September 04, 2013)