Famous Mathematicians

I can explore how mathematics impacts the world and the important part it has played in advances and inventions.

Al-Khwarizmi

Al-Khwarizmi was a mathematician, astronomer and geographer who was born around 780 and died around 850 (about 1240 years ago!).

He worked in Baghdad in a place called The House of Wisdom which was a scientific research and teaching centre. He studied the work of Arab, Greek and Indian scholars and he is known as 'The Father of Algebra'.

Al-Khwarizmi is most famous for his work on developing systems and rules for doing sums and for solving equations. He invented new ways to solve maths problems and one of the books that he wrote explained the problem-solving system that we now know as 'algebra'. His work developed the rules for solving equations and the word algebra comes from the title of his book! The word algorithm (which means a systematic set of rules used to solve a problem) comes from his name.

Another one of his books introduced the Hindu-Arabic decimal number system. The digits 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 that most people still use today! He used 0 as a place holder in this system and before he introduced these ten digits, we were using roman numerals. This number system makes it a lot easier to add, subtract, multiply and divide numbers of any size.

Another of his most famous books was one called 'The Image of the Earth'. In this book, he improved on previous work on mapping and plotting coordinates of places which they knew in the world. He also helped with making the first world map and took part in a project to find out the circumference of the Earth.

The maths that we know today could be very different if it wasn't for the work of Al-Khwarizmi!

Florence Nightingale

Florence Nightingale was born in 1820 in Italy and died in 1910 in London. She is famous for the work that she did in nursing and statistics. She worked as a manager and trained nurses in looking after soldiers during the Crimean War. She became known as The Lady with the Lamp because of her visits going around looking after wounded soldiers at night. When Nightingale arrived at the medical camp she saw that many soldiers were dying because of other illnesses rather than because of the war injury they had. She made great improvements by ensuring better hygiene and called on the British Government to improve the conditions of the war hospital. She arranged for the government to come out and flush the sewers and get better ventilation and after the improvements she made in living conditions, the death rates were greatly reduced.

She started the first formal training school for nurses in London and helped to turn nursing in to a profession and to create professional training for women. This helped women to have professional roles within the workforce. The nursing school that she started is still being used and is called The Florence Nightingale School of Nursing and Midwifery, it is part of Kings College London.

Because of what she learned during her work in the war, Florence Nightingale realised that living conditions and hygiene had a lot to do with living a healthy life. She helped to change society by improving health care for all, including those living in poverty.

Florence Nightingale was excellent at maths and became a pioneer in using data, graphs and statistics in health care. She developed a type of pie chart to show why patients were dying in the War Hospital. She used these charts to show data about what was happening to the members of parliament who she thought would not read long complicated statistical reports. In 1859, she was the first woman to be elected as a member of the Royal Statistical Society.

She also studied the health of the British army in India and used statistics to show that bad drainage, dirty water, overcrowding, and poor ventilation were causing a lot of deaths. She believed that the people of India and the British army needed better conditions and so campaigned for better conditions for the country. Her statistical study helped to improve medical care and the public health service in India.

There will be many medical statisticians working hard now during this Global Coronavirus Pandemic.