What are some of the connections between religions and math?

Understanding of Seasons was vital for civilizations to survive. It aided them in when to plant crops, when to expect rain and flooding and when to harvest their crops.

This led to the development of the calendar starting with the counting of days and months.

Oldest record of counting is found 35,000+ years ago with marks left in stick and bones of animals.

Egypt: 4500 B.C. – watched the rising of Sirius, the brightest start which usually happened in July. Soon after this event the Nile river would flood. The counted the “days” and found that there were 365 which helped them calculate the beginning of the year (July)

Summerians: 3000 B.C. – they divided the 365 into 12 periods and then the periods into 30 parts

Babylonians: 2000 B.C – They took the day and calculated the 24 hours, then took each hour into 60 minutes and the 1 minute into 60 seconds.

All of these “time” calculations had significant religious factors as well. Ceremonies and festivals were held at specific times according to their counting of days.
Maya practiced a form of divination that centered on their elaborate calendar system and extensive knowledge of astronomy. The priests were in charge of letting the rulers know which days were lucky or not and advising them on the best days to plant, harvest, wage war, etc. To the Mayans Religion and math were one in the same. The Mayan calendar consisted of the solar year (365 days) and was divided into 18 months with 20 days each. This was followed by a 5 day period which was considered very unlucky. They also had a 260 day sacred year.

The Chinese culture also used mathematics to help them with their agricultural purposes. Traditional Confucianism used science for these same practical reasons. They used the astrology to make calendars which was important for the agricultural economy.

The Ancient Greek culture also saw religion and mathematics were completely linked. They (Pythagoras, 569 BC-475 BC) viewed math as being created and held a belief that the Earth was sphere because it was the most perfect shape, not because of any experiments. He believed that math translated into music and music was the Greek idea of beauty. Plato believed that god created an eternal world, god put intelligence into the soul...and the soul into man. Greek and Hebrew philosophy suggests that God created the world in six days because six was the perfect number. Six is the product of the first masculine number (2) and the first female number (3). The number 5 represents the union of the male and female meaning love and marriage. The Pythagoreans used the pentagram—5 pointed star—as the symbol of their brotherhood and called it “health”(pentagram symbolized greek goddess of health). This pentagram, closely related to the pentagon (five points look like an angel), leads to the golden ratio.
As time passes we find that religion and mathematics were on opposing sides but in fact many of the most famous mathematicians were deeply religious including Galileo, Kepler, Newton, and Copernicus. Augustine, who converted to Christianity in 386 A.D., explained that the scriptures were true and that correct descriptions of the world cannot be in conflict with the scriptures.

Catholic schools were developed to help continue this intellectual thinking and they taught geometry, arithmetic, astronomy and music.

Math and the church began to challenge each other in some ways while others it was still accepted. For example artists were producing masterpieces using the geometric and mathematical perspective drawings (Michelangelo, Davinci, and others).

Copernicus (1473-1543), in the 16th century, was the first to state the heliocentric view of the universe which went against the Greek world view. Many could not accept his views because they went against the Holy Scripture. In the time it took for people to deem his ideas heretical others were starting to take his ideas and consider them as possible.

Kepler (1571-1630), another very religious man, agreed with Copernicus that and did accept that the Earth was in motion around the sun and he introduced that the heavenly bodies travel in ellipses. He stated that God created the universe and the 5 regular bodies of geometry known since Pythagoras.

Ultimately many suffered at the hand of the catholic church for supporting the views of Copernicus. Some were sentenced to death (Bruno) or sentenced to house arrest (Galileo).
Galileo (1564-1642) thought that he was doing his best save Christianity from an error and felt that mathematicians can not be told what math to believe to be true. Between the Catholic Church arguing with the Protestant church about the major points of the interpretation of the Holy Scripture and that after a trial, all should accept the interpretations made by the Catholic church. Galileo lived under house arrest because of his beliefs but was committed to Christianity throughout his life.

While theologians notoriously differ in their assumptions about God, mathematicians seems to be in unity with complete agreement on all important questions; especially with the notion of a proof (a procedure by which a proposition about the unseen reality can be established with finality and accepted by all). It can be observed that if a mathematical question has a definite answer, then different mathematicians, using different methods, working in different centuries, will find the same answers.

The 17th-century Jewish philosopher Baruch Spinoza echoed the Platonic idea that mathematical law and the harmony of nature are aspects of the divine. Spinoza, too, posited that God's activities in the universe were simply a description of mathematical and physical laws. For that and other heretical views, he was excommunicated by Amsterdam's Jewish community.

German mathematician Georg Cantor's work on infinity and numbers beyond infinity was denounced by theologians who saw it as a challenge to God's infiniteness. Cantor's obsession with mathematical infinity and God's transcendence eventually landed him in an insane asylum.

For the Hindu math genius Ramanujan, an uneducated clerk from Madras who wowed early 20th-century Cambridge, stated that an equation "had no meaning unless it expresses a thought of God."


http://www-groups.dcs.st-and.ac.uk/~history/HistTopics/Mayan_mathematics.html

http://www.religionfacts.com/mayan_religion/index.htm


http://www.maa.org/reviews/MathDivine.html

http://www.philoctetes.org/past_programs/mathematics_and_religion

http://www-history.mcs.st-andrews.ac.uk/HistTopics/Time_1.html