

November 23rd

Memory verse

O Lord, how great are thy works!

and thy thoughts are very deep. Psalm 92:5

Younger children can learn the words in bold.

Maths

(I have highlighted some words in purple that you might like to look up.)



French scientist and mathematician Blaise Pascal (1623-1662) was a brilliant man. He made important contributions to branches of mathematics including geometry and calculus, and helped develop the theory of probability. He formulated Pascal's Law which is the basis for hydraulic operations. He was only nineteen when he invented the world's first mechanical calculator in order to help his tax collector father in his work.

In the France of Pascal's day the official state religion was Roman Catholicism. The country had been torn by religious wars in the period before Pascal's birth. Then Protestants (Bible believers) had been granted limited toleration, confined to specified cities and bounded by many restrictions. During Pascal's lifetime this toleration was gradually replaced by persecution especially under the personal rule of King Louis XIV. During Pascal's lifetime Louis stopped

Protestants from holding public office, closed churches, banned Protestant outdoor preachers and forbade French Protestants to migrate abroad.

But although he was a Frenchman, Pascal was not an average Roman Catholic. He was a follower of Cornelius Jansen (1585-1638) who wanted to change Catholicism a little by bringing in some doctrines similar to some Protestant teachings.¹ Jansen denied that the Catholic Church was infallible (unable to make mistakes) and he spoke against the authority of the pope. Pascal's Jansenist beliefs encouraged him to see the world as God's creation and to praise Him for the beauty and logic of the mathematical and scientific ideas he was investigating. They did not, however, affect aspects of his personal life and Pascal was fond of gambling. Perhaps, too he was not happy with himself for he wrote: "If one does not know himself to be full of pride, ambition, concupiscence [bad desires or greed], weakness, pettiness [small mindedness], injustice, one is very blind. And if, knowing this, a man does not desire to be delivered, what can one say to him?"

Then on 23rd November 1654, just eight years before his early death, Pascal was out riding when his horse bolted and plunged off a bridge, throwing him into the road. Pascal saw this experience as a direct warning from God. That night he is said to have been reading about the crucifixion. Suddenly he felt overwhelmed by the nearness of Christ. Pascal called this experience his "night of fire."

He wrote these words on a piece of paper:

The year of grace 1654. Monday, 23 November, feast of St. Clement... From about half-past ten in the evening until about half-past midnight. Fire. The God of Abraham, the God of Isaac, the God of Jacob... the God of Jesus Christ... not of the philosophers and scholars... Joy, joy, joy, tears of joy...

¹ Dr Martyn Lloyd Jones went so far as to say, "Personally, I would not hesitate to describe the Jansenists, including the great Blaise Pascal, as Calvinistic Methodists before their time." Dr D. Martyn Lloyd Jones, "William Williams and Welsh Calvinistic Methodism" included in the appendix to William Williams, *Welsh Calvinistic Methodism* ed. Dr. Gwyn Davies (Bryntirion, 1998)

Your God will be my God. May I not fall from him forever...I will not forget your word...

After his death, the paper was found sewn into the lining of his jacket. Pascal's way of life changed completely and he dedicated himself to serving to God. Pascal wrote many wise things. Two of my favourites are:

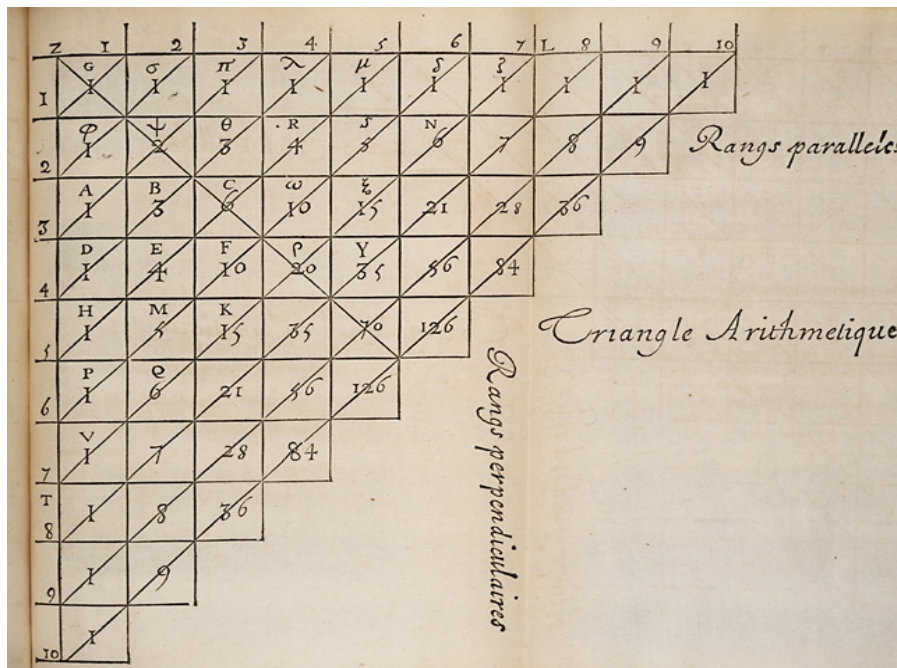
Men despise religion; they hate it – and fear it is true.

and

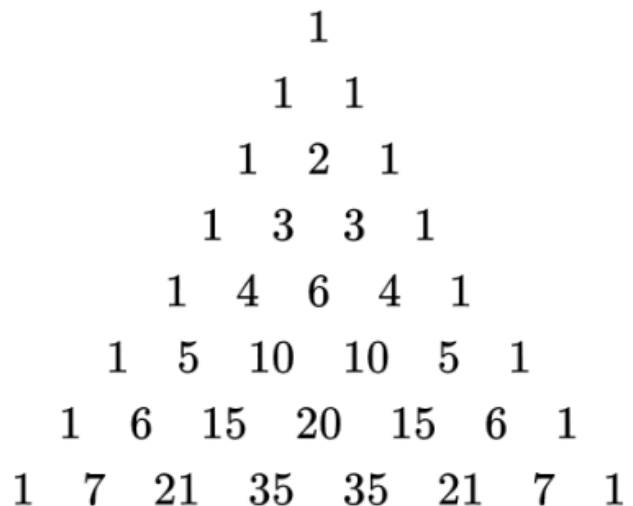
Truth is so obscure in these times, and falsehood so established, that, unless we love the truth, we cannot know it.

But, although he was so wise in many ways, Pascal never left the Roman Catholic church. What a shame!

One of the most interesting of Pascal's discoveries was Pascal's Triangle. The basics of this are simple enough even for me to understand but it also has much more to it that can be explored. Here is how Pascal himself explained his discovery:



An easier way to visualise it is like this:
In this triangle, each number is the **sum** of the two numbers immediately above it. If you look at the bottom row you can see that $7=1+6$, $21=6+15$, $35=15+20$ and so on. If you study the triangle you may be able to see many more



patterns within it.² The triangle can be extended on and on downwards by calculating more rows. Can you write the row that would come below the bottom row shown in the triangle on the right? And the row below that?

Something to think about

“Give me the liberty to know, to utter, and to argue freely according to conscience, above all liberties.”³

On 23rd November 1644, during the English Civil War, John Milton⁴ published a pamphlet, *Areopagitica*. The pamphlet urged parliament not to adopt measures to require all published books to have government approval. Milton argued that the existing law requiring printers to put their name to anything they printed was sufficient. Although parliament did not agree with him in the end, his pamphlet was a milestone on the road to freedom of the press and freedom of speech.

Though all the winds of doctrine were let loose to play upon the earth, so Truth be in the field, we do injuriously, by licensing and prohibiting, to misdoubt her strength. Let her and Falsehood grapple; who ever knew Truth put to the worse, in a free and open encounter?

This quotation from *Areopagitica* can be summarized in the proverb “Truth will out.” Can you paraphrase it in modern English? Do you think this is always true? Is there a long term and short term aspect to the idea? Do we have complete freedom of speech today? Is complete freedom of speech desirable? Is the idea that there can be “hate speech” which is punishable by the law compatible with “freedom of speech”? Can freedom of speech be hindered by other organisations than governments? What other freedoms/liberties do we enjoy and how far do they depend on the liberty highlighted by Milton at the head of this section?

If you read *Areopagitica* you will discover that Milton is not actually arguing for a completely unrestrained press. He wanted publishers of libel⁵ to be punished and made it clear he was not arguing for toleration of “Popery, and open superstition...”. In his system if such things were found to have been published they would be subject to “...the fire and the executioner ...”. How can we define the boundaries of free speech?

Map work

On 23rd November 1869, in Dumbarton, Scotland the *Cutty Sark* was launched. She was a tea clipper – a fast sailing ship engaged in racing home from China each year in an effort to be the first back with the new season's tea crop. Find the **Suez Canal** in your atlas. This canal was opened in the year the *Cutty Sark* was launched. How do you think it would have affected the tea race?



The *Cutty Sark* is the only tea clipper to survive and in fact you might say her life as a historical exhibit in **Greenwich** has been just as eventful as her adventures as a racing vessel. Twice she has caught fire, she has been the centre of intense wrangling about how she should be preserved and the

²<https://www.mathsisfun.com/pascals-triangle.html> has lots more detail for those who are interested.

³ John Milton, *Areopagitica*.

⁴ See also the lesson for April 27th.

⁵ A published false statement that is damaging to a person's reputation.

costs of her restoration now total over £46 million! The picture shows the ship in its present location where she has been raised up to allow visitors to see the underside of the hull.

This might be a good time to learn how to make a really good cup of tea if you don't know already, of course! There are full instructions in the lesson for 23rd June.

Something to make

Another heroic sea story also began on 23rd November. In 1942 the British merchant ship *Benlomond* was sailing from South Africa to New York. On 23rd November she was about 750 miles from the coast of Brazil. This was wartime and the ship was spotted by a German U-boat which torpedoed and sank her. The only survivor was a Chinese steward, Poon Lim, who managed to get onto a kind of life raft called a Carley Float. This was the beginning of a voyage which was to see him become the person to survive longest alone on a raft at sea. After 133 days alone in the South Atlantic he arrived in Brazil. When he was told no one was known to have survived longer than he had on a raft at sea, Poon Lim replied, "I hope no one will ever have to break that record!"

Here are some instructions that will help you make your own raft. I can't guarantee it will stay afloat for 133 days but your raft should sail nicely on a stream or in the bath.

"Ingredients"

Some straight sticks around 30cm long. You need enough of these to make a rectangle with the short sides about 10cm long. Uniform size and not too knobbly is best.

String

PVA glue

5 Flat wooden lolly sticks



Lay your sticks together sided by side to form a rectangle. At one of the short ends of the rectangle, tie string around the end of the first stick with a tight knot. Thread the string under and around the end of each stick in turn and tie off tightly on the last stick. Turn the rectangle round and repeat the process at the other end. Now glue a lolly stick over the top of the lines formed by the string on both sides of your raft. Leave your raft until the glue is dry. If you want to make a mast when your glue is dry, push a lolly stick up between the other sticks in the centre of the raft and glue it in place. You can cut out a paper sail and glue it on or even add a large leaf for a sail.

Something to write

A Carley Float was generally equipped with various basic survival items. Make a list of the things you would stow on a small raft in case of emergencies.