

## Persian Rugs



Persian rugs are undoubtedly among the best known emblems of Iranian culture and art. Carpet weaving dates back to the Bronze Age. Since rugs are made of biodegradable material, mainly wool, cotton and silk, archaeologists find little evidence of them in their excavations. A very notable exception was the discovery by a group of Russian archaeologists under the supervision of Professor Rudenko working in the ice covered Pazyryk valley in the Altai mountain range in Siberia. An ancient carpet was found in the grave of a Scythian prince. Radiocarbon dating revealed that the Pazyryk rug was woven in the 5th century BCE. This rug is 1.83×2 meters and has 36 symmetrical knots per square cm. The advanced weaving technique employed in making the rug suggests a long history of evolution of the art. Accordingly the art or cottage industry of carpet-weaving is estimated to be at least 3500 years in Iran.

In the Museum of Turkish and Islamic art in Istanbul and in the Mowlana Museum in Konya (Turkey) other ancient pieces of Persian rugs are on display. The oldest of these rugs belong to third to fifth centuries CE and were found in Eastern Turkestan.

Other rug fragments have the characteristics of pre-Seljuk period (13th and 14th centuries CE). Hand weavings from the Seljuk period in Asia Minor are on exhibit in Ala'edin Mosque in Konya and Ashrafoghlu Mosque in Beyshehir, Turkey.

One of the finest rugs in the world which can be accurately identified and dated was found in a mosque in Ardebil in Iran in 1947. It is made of a blend of wool and silk, and at 37' x 17' it is one of the largest rugs of its type. It carried the date of the Islamic year (AH 947) which is the equivalent to 1540 CE. It was made by order of Shah Tahmasb by a weaver named Maksud al Kashani. It was used in the Shaykh Safi Shrine in Ardebil. The weaver inscribed this information within a cartouche at one end of the carpet. The rug is on display in the Victoria & Albert Museum in London.

The Carpet Museum of Iran was inaugurated in 1978 with a limited number of Persian rugs and kilims. It is located on the northwest corner of Laleh Park in Tehran, and the building resembles a carpet weaving loom. The museum consists of two exhibition galleries covering an area of 3400 square meters. In the ground floor gallery the permanent collection of the museum is on display. The upper floor gallery is reserved for the exhibition of rugs and kilims which may be on loan from other museums, and for carpet designs.

For information about a tour of the museum contact Mr. Rahpeyma.



# TOM LEHRER SONG

*This was most likely written for the July 18, 1993, Fermat Fest, held in San Francisco and presented by the Mathematical Sciences Research Institute. The Fermat Fest was held to celebrate the fact that Andrew Wiles had proven the famous Fermat's Last Theorem that had gone unproven for centuries. Fermat had written in the margin of a notebook that he had come up with a neat little proof of the theorem, but did not have space to write it there. Since then, people many times have claimed to have proven the theorem, but have been proven wrong. It has been speculated that Fermat did not actually have a proof.*

## That's Mathematics

Counting sheep  
 When you're trying to sleep,  
 Being fair  
 When there's something to share,  
 Being neat  
 When you're folding a sheet,  
 That's mathematics!  
 When a ball  
 Bounces off of a wall,  
 When you cook  
 From a recipe book,  
 When you know  
 How much money you owe,  
 That's mathematics!

How much gold can you hold in an elephant's ear?  
 When it's noon on the moon, then what time is it here?  
 If you could count for a year, would you get to infinity,  
 Or somewhere in that vicinity?

When you choose  
 How much postage to use,  
 When you know  
 What's the chance it will snow,  
 When you bet  
 And you end up in debt,  
 Oh try as you may,  
 You just can't get away  
 From mathematics!

Andrew Wiles gently smiles,  
 Does his thing, and voila!  
 Q.E.D., we agree,  
 And we all shout hurrah!  
 As he confirms what Fermat  
 Jotted down in that margin,  
 Which could've used some enlargin'?

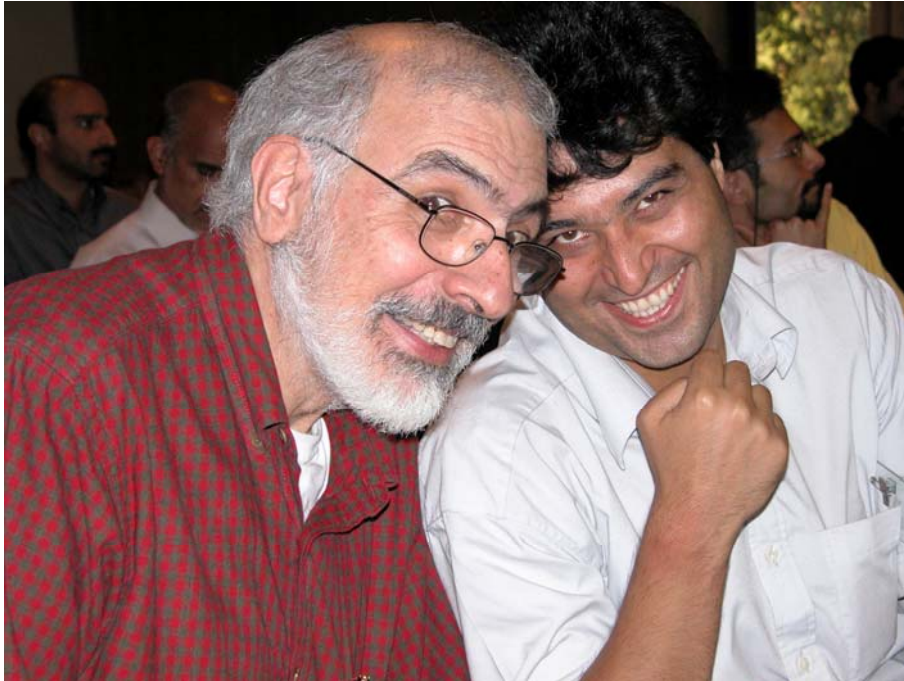
Tap your feet,  
 Keepin' time to a beat,  
 Of a song  
 While you're singing along,  
 Harmonize  
 With the rest of the guys,  
 Yes, try as you may,  
 You just can't get away  
 From mathematics!



*Tom Lehrer in 1960*

*As an undergraduate student at Harvard University, he began to write comic songs to entertain his friends, including Fight Fiercely, Harvard (1945). Those songs later became The Physical Revue. Influenced mainly by the musical theater, his style consisted of parodying the then-current forms of popular song. Lehrer earned his BA in mathematics (Magna Cum Laude) from Harvard University in 1947, when he was eighteen. He received his MA the next year, and was inducted into Phi Beta Kappa. He taught classes at MIT, Harvard and Wellesley. He remained in Harvard's doctoral program for several years, taking time out for his musical career and to work as a researcher at Los Alamos, New Mexico. He joined the Army from 1955 to 1957, working at the National Security Agency. All of these experiences eventually became fodder for songs: "Fight Fiercely, Harvard", "The Wild West Is Where I Want To Be" and "It Makes a Fellow Proud to Be a Soldier", respectively. In 1960, Lehrer returned to full-time studies at Harvard, receiving a PhD in mathematics. In 1972, he joined the faculty of the University of California, Santa Cruz, teaching an introductory course entitled "The Nature of Mathematics" to liberal-arts majors—"Math for Tenors", according to Lehrer. He also taught a class in musical theater.*

# Why are these two boys so happy?



*What mischief are they up to?*



## Trends

Trends are seen in all intellectual activities- it is special among physicists. They are like fish in the water all swimming in the same direction. Suddenly ONE fish changes direction and within  $10^{-8}$  seconds all others are going also in the new direction.



## Quote of the Day

You know we all became mathematicians for the same reason: we were lazy

Max Rosenlicht

## Puzzle

### Rules

Your goal is to fold the 4x4 puzzle into a 2x2 packet so that both sides show 4 logos all aligned the same way. In other words, all logos must be "upright" (not rotated with respect to each other) and 4 logos must show on both sides. You can fold anywhere you want. No cutting is allowed.

