

Trigonometric History and Constants

Trigonometry · Practice Test · 8 Questions

1. In the 2nd century BCE, which Greek astronomer compiled the first known table of chords, essentially laying the foundations for modern trigonometric tables?

- A) Hipparchus of Nicaea
- B) Ptolemy
- C) Aristarchus of Samos
- D) Eratosthenes

2. The term 'sinus' (sine) was introduced into Latin in 1145 CE by which translator, who translated Al-Battani's work from Arabic?

- A) Robert of Chester
- B) Gerard of Cremona
- C) Adelard of Bath
- D) William of Moerbeke

3. What is the exact value of the sine of 18 degrees, expressed in radical form as identified in classical algebraic geometry?

- A) $(\sqrt{5}-1)/4$
- B) $(\sqrt{5}+1)/2$
- C) $\sqrt{10-2\sqrt{5}}/4$
- D) $(\sqrt{3}-1)/2$

4. In which century did the Indian mathematician Aryabhata introduce the concept of the 'jya' (sine) and 'kojya' (cosine) in his treatise 'Aryabhatiya'?

- A) 5th century CE
- B) 6th century CE
- C) 7th century CE
- D) 8th century CE

5. The law of cosines, as expressed in the form $c^2 = a^2 + b^2 - 2ab \cos(C)$, was first formally generalized in the work of which 16th-century mathematician?

- A) François Viète
- B) Regiomontanus
- C) Rheticus
- D) Gerolamo Cardano

6. Who was the first mathematician to define trigonometric functions as ratios rather than lengths of lines in a circle, in his 1748 work 'Introductio in analysin infinitorum'?

- A) Leonhard Euler
- B) Isaac Newton
- C) Brook Taylor
- D) John Wallis

7. The value of the 'sine' function for an angle of 3 degrees can be exactly represented using radicals involving which sequence of root extractions?

- A) Nested square roots
- B) Cube roots only
- C) Fourth roots only
- D) Sixth roots

8. In his 1551 publication 'Canon doctrinae triangulorum', which mathematician was the first to define all six trigonometric functions as ratios of the sides of a right triangle?

- A) Georg Joachim Rheticus
- B) Nicolaus Copernicus
- C) Thomas Fincke
- D) Pitiscus