

NOTA: None of the above answers is correct

1. The present division of the circumference of a circle into 360 parts is owed to the
A. Egyptians B. Babylonians C. Chinese D. Arabs E. NOTA

2. This Babylonian tablet, now in Columbia University, lists values of Pythagorean triples.
A. Plimpton B. Rollin C. Rhind D. Golenishev E. NOTA

3. Thales, the first individual with whom mathematical discoveries are associated, is credited with all of the following, except
A. A circle is bisected by any diameter
B. The base angles of an isosceles triangle are equal
C. Two vertical angles formed by two intersecting lines are equal
D. The formula: $v - e + f = 2$
E. NOTA

4. His *Eudemian Summary* constitutes the opening pages of *Commentary on Euclid*, Book I, and is a very brief outline of the development of Greek geometry from earliest times to Euclid.
A. Pythagoras B. Thales C. Proclus D. Archimedes E. NOTA

5. Born in Samos, he eventually migrated to Crotona in southern Italy, where he founded his famous school. This school was not only an academy for the study of philosophy, mathematics, and natural science, but also developed into a closely knit brotherhood with secret rites. He is
A. Thales B. Pythagoras C. Euclid D. Proclus E. NOTA

6. The number of regular polyhedra is
A. 8 B. 6 C. 5 D. 4 E. NOTA

7. The Delian problem is just another name for
A. The duplication of the cube. B. The quadrature of the circle.
C. The trisection of an angle. D. Zeno's paradox E. NOTA

8. The following all found approximations for π , except
A. Archimedes B. Aryabhata C. Bhaskara D. Pascal E. NOTA

9. The following rhyme may be used to approximate which number:
See, I have a rhyme assisting my feeble brain, its tasks oftimes resisting
- A. e B. The golden ratio C. π D. The speed of light E. NOTA
10. The following are all works by Archimedes, except
- A. *Commentary on Euclid* B. *Measurements of a Circle*
C. *On the Sphere* D. *On Spirals* E. NOTA
11. The problem of constructing a circle tangent to three given circles, where the given circles are permitted to degenerate independently into straight lines or points has attracted mathematicians like Viète, Euler, Newton, and others. It is now called
- A. The problem of points B. The problem of the crown
C. The problem of Apollonius D. The problem of Ahazen E. NOTA
12. Euclid's *Elements* contained a total of h books and k propositions, where
- A. $h = 14$; $k = 400$ B. $h = 12$; $k = 465$ C. $h = 13$; $k = 460$
D. $h = 13$; $k = 465$ E. NOTA
13. The definitive Greek work on astronomy was written by this mathematician around 150 AD. It was called the *Syntaxis Mathematica*, or as later the Arabs translated it, the *Almagest*.
- A. Claudius Ptolemy B. Heron C. Menelaus D. Apollonius E. NOTA
14. Proposition I-5 in Euclid's *Elements*, proves that the base angles of an isosceles triangle are equal. The proof was so difficult that it was said to make many readers abandon the study of geometry. It was called
- A. *reductio ad absurdum* B. *logica demonstrative*
C. *pons asinorum* D. *catoptrica* E. NOTA
15. This Greek mathematician invented the conchoid, a curve with which we may solve both the trisection of the angle and the duplication of the cube problems.
- A. Thales B. Apollonius C. Diocles D. Pappus E. NOTA

16. This very important Chinese text dating from the Han period contains, among other topics: correct rules for areas of triangles, trapezoids, and circles; volumes of solids; and Pythagorean right triangles.

- A. Ch'in Kiu-shao B. K'ui-ch'ang Suan-sha C. Cho'u-pei
D. Chu Shi-kie E. NOTA

17. Perhaps the most important role played by them was one of preserving ancient mathematical knowledge, including algebra and geometry.

- A. Arabs B. Babylonians C. Chinese D. Hindus E. NOTA

18. His proof of the Pythagorean Theorem required no words. BEHOLD!

- A. Ramanujan B. Mahavira C. Bhaskara
D. Brahmagupta E. NOTA

19. *La Geometrie*, his famous third appendix of the *Discours*, is divided into three parts and is his only published mathematical writing.

- A. Pascal B. Viete C. Fermat D. Descartes E. NOTA

20. The creation of his non-Euclidian geometry not only liberated geometry, but had a similar effect on mathematics as a whole. Mathematics emerged as an arbitrary creation of the human mind.

- A. Cantor B. Babbage C. Diophantus D. Lobachevsky E. NOTA

21. The origins of non-Euclidian geometry began with the efforts to eliminate doubts about Euclid's

- A. parallel axiom
B. axiom on the existence of a line between two points
C. axiom on the trisection of an angle
D. axiom on the quadrature of the circle
E. NOTA

22. His geometry of space was not just an extension of Gauss' differential geometry, it reconsidered the whole approach to the study of space.

- A. Cantor B. Lobachevsky C. Reimann D. Bolyai E. NOTA

23. Considered the father of differential geometry because of his work *Application de L'analyse a la geometrie*, where he introduced the concept of lines of curvature of a surface in three-dimensional space.

- A. Dupin B. Monge C. Fourier D. Lagrange E. NOTA

24. Analysis situs was the name long used to describe a branch of geometry now called

- A. combinatorics B. analysis C. analytical geometry
D. topology E. NOTA

25. His *Traite des proprietes projectives des figures* is a geometric milestone which gave impetus to the study of projective geometry. Two of his mathematical tools were the principle of duality and the principle of continuity.

- A. Desargues B. Poncelet C. Delamain D. D'Alembert E. NOTA

26. In the depiction of a row of identical columns parallel to the plane of a perspective drawing, the outer columns should appear wider, even though they are farther away. This is called

- A. Zeno's paradox B. Leonardo's paradox C. Apolonius' paradox
D. Viète's paradox E. NOTA

27. If in two solids of equal altitudes, the sections made by planes parallel to and at the same distance from their respective bases are always equal, then the volumes of the two solids are equal. This is called

- A. Pappus' theorem B. Leonardo's paradox C. Snell's principle
D. Cavalieri's principle E. NOTA

28. *There exist two lines parallel to a given line through a given point not on the line.* This is the parallel postulate according to

- A. Lobachevsky B. Birkhoff C. Peano D. Veblen E. NOTA

29. He proved in a short paper in 1882 that π is transcendental. With this, the thousand year old question about the quadrature of the circle was answered in the negative.

- A. Hermite B. Cantor C. Weiertrass D. Riemann E. NOTA

30. He could be said to be the founding father of topology with his solution to the problem of the Seven Bridges of Koningsberg.

- A. Bernoulli B. Fermat C. Liebnez D. Euler E. NOTA