

Case Study 1

A National Public School organised an education trip to a museum. Almost all the students of class IX went to the trip with their teacher of Mathematics. They saw many pictures of mathematicians and read about their contributions in the field of Mathematics. After visiting the museum, teacher asked the following questions from the students.



On the basis of the above information, solve the following questions:

Q 1. Pythagoras was a student of:

- a. Euclid
- b. Thales
- c. Archimedes
- d. Both a. and b.

Q 2. Name of the mathematician who is visible in the last picture, is:

- a. Euclid
- b. Pythagoras
- c. Thales
- d. None of these

Q 3. Euclid stated that 'A circle can be drawn with any centre and any radius', is a/an:

- a. definition
- b. postulate
- c. axiom
- d. proof

Q 4. In which country Thales belong to?

- a. Greece
- b. Egypt
- c. Babylonia
- d. Rome

Q 5. Which of the following needs a proof?

- a. Definition
- b. Theorem
- c. Axiom
- d. Postulate

Case Study 2

In a class of Mathematics, the teacher taught a chapter 'Introduction to Euclid's Geometry' in which they taught about different postulates and axioms.

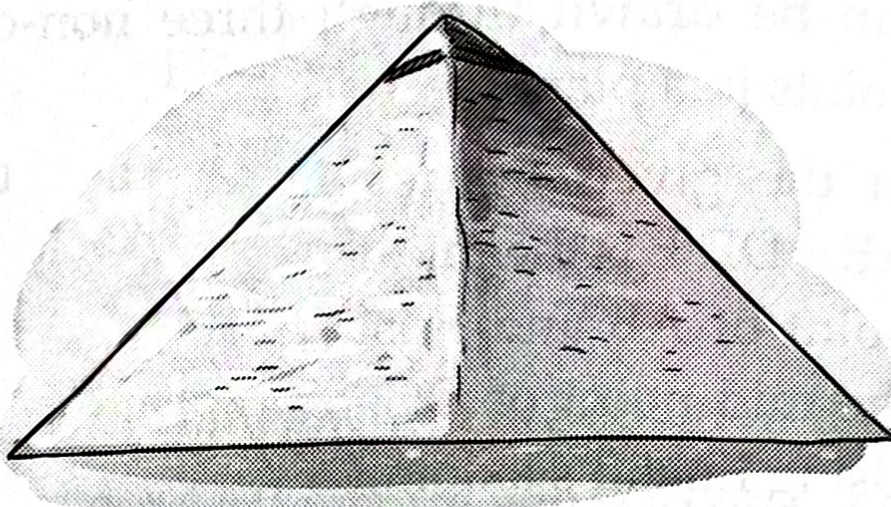


On the basis of the above information, solve the following questions:

- Q 1.** How many axiom's are exist in Euclid's?
 - Q 2.** Write any one of the Euclid's postulate.
 - Q 3.** Write Euclid's axlom 5.
 - Q 4.** By which Euclid's axiom 'If $x + y = 5$, then $x + y - z = 5 - z$ '?
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Case Study Based Questions

9. Roshni and her family had their last summer vacation in Egypt. They visited the iconic pyramids of Giza, as well as other tourist attractions in and around. The Great Pyramid of Giza is the oldest and the largest of the pyramids in the Giza pyramid complex. Roshni was astounded to discover that the ancient Egyptians were adept at geometrical calculations. They built pyramids using their understanding of geometry. Now, answer the following questions.



- (a) What is the shape of the base of a pyramid which is a solid figure?
- (b) What is the shape of the side faces of a pyramid?
- (c) (i) How many dimensions, a surface has?
or
(ii) How many dimensions, a solid has?

. Kavya is passionate to know about India's ancient heritage and culture. She had recently studied about the magnificent Indus Valley civilization in her history classes. She had also studied two of the Indus Valley civilization's major settlements, Harappa and Mohenjodaro. Geometry was used extensively in the Indus Valley culture, as evident by the excavations at these locations. Now, answer the following questions.



- (a) What was the ratio
length : breadth : thickness of the bricks
used in the construction work in the Indus
Valley civilization?
- (b) What was the shapes of altars used for
household rituals in ancient India?
- (c) (i) How many dimensions, a line has?
or
(ii) What is the number of interwoven
isosceles triangles in Sriyantras (in the
Atharva Veda)?