

CHAPTERS- INTRODUCTION TO EUCLIDS GEOMETRY,LINES AND ANGLES

CLASS-IX (MATHS)

ASSERTION & REASONING QUESTIONS

DIRECTION : In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:

- (a)Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
- (b)Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).
- (c)Assertion (A) is true but reason (R) is false. (d)Assertion (A) is false but reason (R) is true.

Assertion (A): Given two distinct points there is a unique line that passes through them.

Reason (R): If A,B and C are three points on a line and B lies between A and C then $AB+BC=AC$.

ANS – (b)

If both assertion and reason are true but reason is not the correct explanation of assertion.



Write whether the following statements are True or False?

2. Pyramid is a solid figure, the base of which is a triangle or square or some other polygon and its side faces are equilateral triangles that converges to a point at the top.

- (A) TRUE
- (B) FALSE

ANS:

(B)False.

The side faces of a pyramid are triangles not necessarily equilateral triangles.

3.In geometry, we take a point, a line and a plane as undefined terms.

- (A) TRUE
- (B) FALSE

ANS:

(A)True.

To define a point, a line and a plane in geometry we need to define many other things that give a long chain of definitions without an end .For such reasons, mathematicians agree to leave these geometric terms undefined.

4. Euclid's fourth axiom says that everything equals itself.

ANS:

True.

It is the justification of the principle of superposition.

5. The Euclidean geometry is valid only for figures in the plane.

(A) TRUE

(B) FALSE

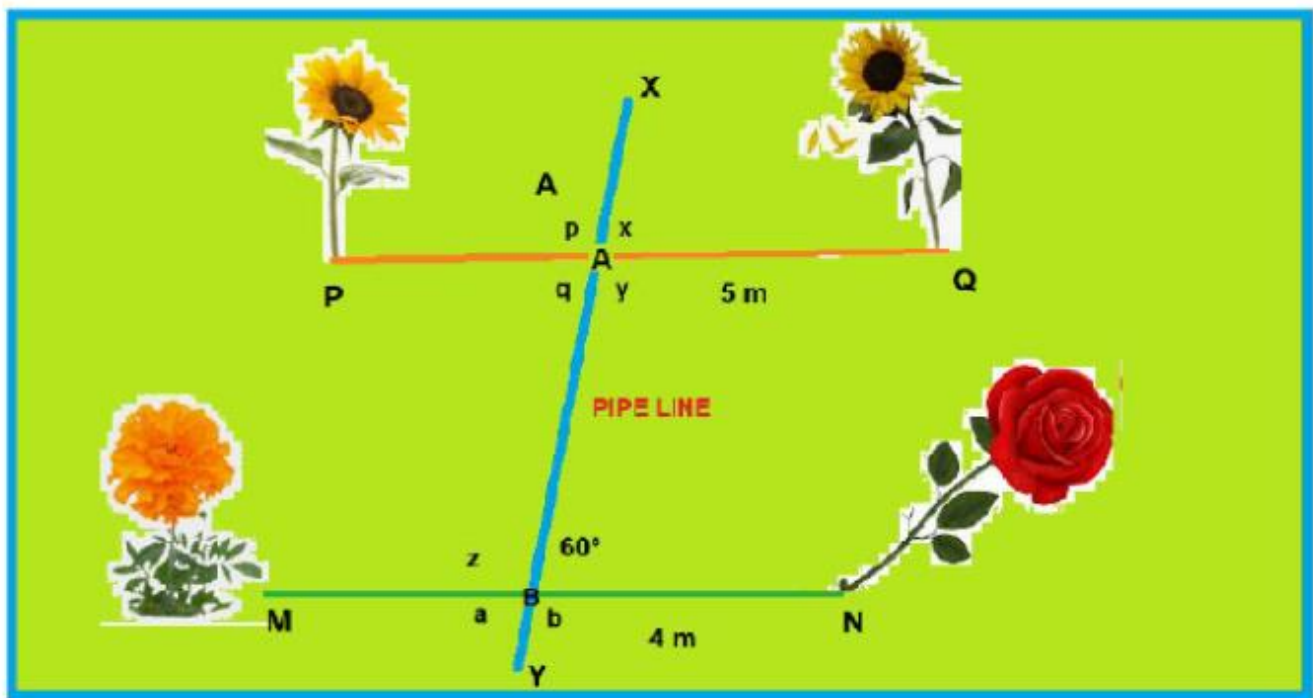
ANS: (A) TRUE

True.

It fails on the curved surfaces. For example on curved surfaces, the sum of angles of a triangle may be more than 180° .

CASE STUDY

Once 4 students from class IX were selected for plantation of flower plants in the School garden. The selected students were Pankaj, Raju, Deepak and Renu. As shown PQ and MN are the parallel lines of the plants. Pankaj planted a sunflower plant at P and Raju planted another sunflower at Q. Further Deepak was called to plant any flowering plant at point M he planted a Marigold there now it was the turn of Renu, She was told to plant a flowering plant different from the three planted one. So she planted a rose plant at N. There was a water pipe line XY which intersected PQ and MN at A and B and $\angle XBN = 60^\circ$.



6. What is the value of $\angle z$?

(A) 60°

(B) 120°

(C) 180°

(D) 100°

ANS- (B)

$$\angle z + 60^\circ = 180^\circ \quad (\text{Linear pair}), \angle z = 120^\circ$$

7. What is the value of x?

(A) 60°

(B) 120°

(C) 180°

(D) 100°

ANS: (A)

$$x = 60^\circ \quad (\text{corresponding angle})$$

8. What is the value of $p + q$?

(A) 60°

(B) 120°

(C) 180°

(D) 100°

ANS: (C)

$$p + q = 180^\circ \quad (\text{Linear pair})$$

9. Which angle is the corresponding angle to a?

(A) z

(B) p

(C) b

(D) q

ANS: (C)

corresponding angle to a is angle q.

10. What is the value of $(p + q + a + z)/6$?

(A) 60°

(B) 120°

(C) 180°

(D) 100°

ANS: (C)

$$(p + q + a + z)/6, \quad (180^\circ + 180^\circ)/6 = 60^\circ$$