ExamPath

CLASS 9 MATHEMATICS · FBISE · UNIT 10

Unit 10: Practical Geometry — Beginner Practice

15 multiple-choice questions Suggested time: **15 minutes** 1 mark each

Name: Date: Score: / 15

Circle one answer for each question. The answer key with explanations is on the last pages, so try every question before you check. These are practice questions, not official FBISE papers.

1. In an equilateral triangle, the in-centre, circumcentre, orthocentre and centroid:

(A) all lie at the same point
(B) lie on the three sides
(C) lie outside the triangle
(D) lie at four different points

2. Why is a right bisector of a segment special compared with other bisectors?

(A) It is parallel to the segment
(B) It is longer than the segment
(C) It is perpendicular to the segment and passes through its midpoint
(D) It misses the segment

3. Which statement about the angle bisectors of a triangle is true?

(A) They are always equal in length
(B) They always meet outside the triangle
(C) They are always concurrent inside the triangle
(D) They are always parallel

4. Two angles of a triangle are 45° and 60°. Find the third angle.

(A) 75°
(B) 105°
(C) 65°
(D) 85°

5. A line segment from a vertex of a triangle, perpendicular to the opposite side, is called an:

(A) angle bisector
(B) altitude
(C) arc
(D) median

6. The point where the medians of a triangle meet is called the:

(A) orthocentre
(B) circumcentre
(C) in-centre
(D) centroid

7. How many triangles can be constructed when the lengths of three sides that can form a triangle are given?

(A) Two
(B) Infinitely many
(C) Exactly one
(D) None

8. Two angles of a triangle are 60° and 90°. Find the third angle.

(A) 60°
(B) 30°
(C) 120°
(D) 90°

9. A ray that divides an angle into two equal parts is called an:

(A) angle bisector
(B) right bisector
(C) median
(D) altitude

10. Where do the altitudes of an acute-angled triangle meet?

(A) At a vertex
(B) At the midpoint of a side
(C) Inside the triangle
(D) Outside the triangle

11. Why must we find the third angle when a side and two angles are given?

(A) The side must be 180 cm
(B) Triangles have four angles
(C) One angle must be 90°
(D) The construction needs it, and the three angles add up to 180°

12. Where do the altitudes of a right-angled triangle meet?

(A) At the vertex of the right angle
(B) At the centroid always
(C) Outside the triangle
(D) At the midpoint of the hypotenuse

13. Lines that meet at a single point are called:

(A) parallel
(B) concurrent
(C) perpendicular
(D) collinear

14. A centroid splits a median into two parts. If the longer part is 8 cm, how long is the shorter part?

(A) 2 cm
(B) 16 cm
(C) 8 cm
(D) 4 cm

15. What does a median of a triangle join?

(A) A vertex to the opposite side at a right angle
(B) A vertex to the midpoint of the opposite side
(C) Two vertices
(D) The midpoints of two sides

Answer key

Unit 10 · Beginner Practice

1 A	**2** C	**3** C	**4** A	**5** B
6 D	**7** C	**8** B	**9** A	**10** C
11 D	**12** A	**13** B	**14** D	**15** B

Explanations

1. **A. all lie at the same point**
In an equilateral triangle all four centres coincide.

2. **C. It is perpendicular to the segment and passes through its midpoint**
There are infinitely many bisectors of a segment, but only one is perpendicular to it.

3. **C. They are always concurrent inside the triangle**
The three angle bisectors of any triangle meet at one point inside it.

4. **A. 75°**
180° − 45° − 60° = 75°.

5. **B. altitude**
A perpendicular segment from a vertex to the opposite side is an altitude.

6. **D. centroid**
The medians meet at the centroid.

7. **C. Exactly one**
Three sides fix the shape and size of the triangle, so only one triangle is possible.

8. **B. 30°**
The angles add up to 180°. 180° − 60° − 90° = 30°.

9. **A. angle bisector**
An angle bisector divides an angle into two equal angles.

10. **C. Inside the triangle**
For an acute-angled triangle, the altitudes meet inside it.

11. **D. The construction needs it, and the three angles add up to 180°**
The third angle is found from the angle sum 180°, and it is then used in the construction.

12. **A. At the vertex of the right angle**
The two sides forming the right angle are themselves altitudes, so all three meet at that vertex.

13. **B. concurrent**
Lines passing through one common point are concurrent. Collinear describes points on one line.

14. **D. 4 cm**
The ratio is 2 : 1, so the shorter part is 8 ÷ 2 = 4 cm.

15. **B. A vertex to the midpoint of the opposite side**
A median runs from a vertex to the midpoint of the opposite side.

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