FIRST TERM EVALUATION
2026–2027

STANDARD VII • MATHEMATICS • SCORING KEY & DETAILED SOLUTIONS

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Question Paper Code: E 703 / A-703-E **Time:** 2 Hours 15 Minutes **Medium:** English

Question 1 — Properties of Parallelograms & Construction

1(a) Correct option: **B** — Lines AD and BC do not have the same length. In a parallelogram, opposite sides are equal, so AD = BC = 5 cm.

1(b) Construction: Draw AB = 7 cm. At A construct ∠A = 50° and mark AD = 5 cm. With D as centre and radius 7 cm, and B as centre and radius 5 cm, draw arcs intersecting at C. Join BC and CD to obtain parallelogram ABCD.

Question 2 — Fractions & Operations

2(a) Boys = 45 × 1/3 = 15. Therefore girls = 45 – 15 = **30**.

2(b) Maths Club members = 15 × 1/5 = **3 boys**.

2(c) 6 × 1/2 = 3. Therefore, 3 ÷ 1/4 = **12**. Hence 12 times of 1/4.

2(d) 4 × 1¾ = 4 × 7/4 = 7. Option D gives 4 × 3/4 = 3. Therefore the correct option is **D**.

Question 3 — Triangle Inequality & Geometric Division

3(a) Using |a – b| < c < a + b: a) 5 cm, 3 cm → 6 cm (2); b) 12 cm, 4 cm → 10 cm (3); c) 18 cm, 7 cm → 18 cm (1). Correct option: **B (a–2, b–3, c–1)**.

3(b) Draw an equilateral triangle of side 8 cm. Divide each side into four equal parts (2 cm each) and draw the required parallel lines to form the small triangles. Shade as shown in the question.

Question 4A — Angles in Parallelograms & Triangles

4A(a) Correct option: A — 120° – 30° = 90°. Since ∠B = 120°, the opposite angle ∠D is also 120°. The diagonal divides ∠D into ? and 30°, so ? = 120° – 30° = **90°**.

4A(b) The triangle has angles 30° and 20°, so the remaining angle is 180° – (30° + 20°) = **130°**. Thus the two required angles are **20° and 130°**.

4A(c) The marked angles belong to two triangles in the star figure. Each triangle has an angle sum of 180°. Therefore the sum of all six marked angles is **180° + 180° = 360°**.

Question 4B — Parallel Lines & Transversals

4B(a) Correct option: **C** — Statement 1 is correct and Statement 2 is incorrect.

4B(b) ∠2 and ∠3 form a linear pair. Hence ∠3 = 180° – 130° = **50°**.

4B(c) ∠1 = 50° and ∠2 = 130°. Therefore ∠1 + ∠2 = **180°**.

4B(d) Using the parallel lines and transversal, ∠4 = **50°**.

Question 5A — Fractions & Area Model

5A(a) There are 8 equal parts, of which 2 are unshaded. Fraction unshaded = 2/8 = **1/4**.

5A(b) 1/2 of 1/4 = 1/2 × 1/4 = **1/8**. Draw a rectangle divided into 8 equal parts and shade one part.

5A(c) 3/4 of 2/3 = 2/3 × 3/4. Correct option: **A — 2 × 1/3 × 3/4**.

Question 5B — Area Calculations with Fractions

5B(a) Area = 1/2 × 1/2 = **1/4 m²**.

5B(b) Area = 6½ × 3½ = 13/2 × 7/2 = 91/4 = **22¾ m²**.

5B(c) Increase in area = increase in length × width = 1/2 × 3½ = 7/4 = **1¾ m²**.

5B(d) 2/3 × 3/4 = 1/2. Therefore the statement that is not suitable is **B — More than 3/4**.

Question 6 — Angle Properties of Triangles & Construction

6(a) Statement i is incorrect because two 90° angles already total 180°. Statement ii is correct. Statement iii is incorrect because two angles greater than 90° would exceed 180°. Statement iv is correct. Correct option: **B — Statements ii and iv are correct.**

6(b) Draw a base of 6 cm. At its endpoints construct angles of 50° and 60°. Extend the two rays until they meet. The third angle is 180° − 50° − 60° = **70°**.