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SUMMATIVE ASSESSMENT – TERM II, 2026–27

MATHEMATICS – ANSWER KEY (English Medium)

SET 2

Standard: IX **Time: 2½ Hours**

Total Score: 80

Award scores for correct steps even if the final answer is wrong. Accept any correct alternative method.

Q. No.	Answer / Scoring indicators	Score
1	C) 4 (adding: 3x = 12)	1
2	C) |−4| + |−4| = 0 is false (it is 8)	1
3	A) 9 cm (18 × ½)	1
4	C) √20	1
5	B) √2 cm	1
6	A) Both (i) and (iii) are true	1
7	D) Both true; Statement 2 is not the reason for Statement 1	1
8	A) Statement 1 true (22/7 × 7 = 22), Statement 2 false (area = 154 cm²)	1
9	Correct triangle (1); new base 6 cm with the same angles 50° and 70° (2)	3
10	(i) 4 + (−6) = −2 (1) (ii) −6 − (−1) = −5 (1) (iii) 4 × (−1) − (−6) = −4 + 6 = 2 (1)	3
11 A	Side = √20 (1); 4.47² = 19.98…, 4.48² = 20.07… (1); side ≈ 4.47 cm, about 4.5 cm (45 mm) (1)	3
11 B	(i) 7 − 2 = 5 (1) (ii) Multiply numerator and denominator by (√7 + √2): (√7 + √2) ÷ 5 (2)	3
12	(i) 5 + 3 = 8 (1) (ii) |−2| = 2 (1) (iii) |−8| = 8 (1)	3
13 A	x + y = 52, x − y = 14 (1); 2x = 66 (1); numbers 33 and 19 (1)	3
13 B	4c + 3t = 5600, 2c + 5t = 7000 (1); doubling the second and subtracting: 7t = 8400 (1); table 1200 rupees, chair 500 rupees (1)	3
14	p(1) = 3 + 2 − 5 = 0 (1); p(0) = −5 (1); p(−2) = 12 − 4 − 5 = 3 (1)	3
15	Sides 3 cm, 4 cm, 5 cm (2); correct construction (2)	4
16	(i) Diameter = 10 cm (1) (ii) Side² + side² = 100 → side = √50 = 5√2 ≈ 7.07 cm; perimeter = 20√2 ≈ 28.28 cm (2) (iii) Circumference = 31.4 cm; difference ≈ 3.12 cm (1)	4
17 A	(i) Both have a right angle at S and ∠Q = 90° − ∠R = ∠SPR (1) (ii) PS² = QS × SR → 36 = 4 × SR → SR = 9 cm (2) (iii) QR = 4 + 9 = 13 cm (1)	4
17 B	(i) 9 ÷ 6 = 1½ (1) (ii) QR = 12 cm, RP = 15 cm (2) (iii) 9 + 12 + 15 = 36 cm (1)	4
18	(i) 0 (1) (ii) x = −3: 9 − 18 + 9 = 0; x = 1: 1 + 6 + 9 = 16 (2) (iii) 0, because x² + 6x + 9 = (x + 3)², which can never be negative (1)	4
19	(i) 30 cm (1) (ii) s = 15 (1); area = √(15 × 10 × 3 × 2) (1) = √900 = 30 cm² (1)	4
20 A	(i) x + 4 = 6 or −6 → x = 2 or x = −10 (2) (ii) x is midway between 1 and −7: x = −3 (2)	4

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20 B	(i) $-1 + 3 = 2$ and $-1 - 3 = -4$ (2) (ii) Diameter $= 6 - (-4) = 10$ (1); centre $= (-4 + 6) \div 2 = 1$ (1)	4
21	Draw PQRS using triangles PQR and PRS (2); new sides 3, 2.5, 2, 2.5 cm and diagonal 3.5 cm (1); correct scaled quadrilateral (2)	5
22	(i) Draw $\sqrt{2}$ as the diagonal of a unit square, then a right triangle with sides $\sqrt{2}$ and 1 gives $\sqrt{3}$ (1) (ii) $3\sqrt{2} + 2\sqrt{2} = 5\sqrt{2}$ (1) (iii) $\sqrt{9} = 3$ (1) (iv) $5 - 2\sqrt{5} + 1 = 6 - 2\sqrt{5}$ (2)	5
23 A	(i) $2\pi r = 88 \rightarrow r = 14$ cm (1) (ii) $22/7 \times 14 \times 14 = 616$ cm² (2) (iii) Square side 22 cm, area 484 cm²; the circle is greater by 132 cm² (2)	5
23 B	(i) $2 \times 22/7 \times 35 = 220$ cm (2) (ii) $110\,000 \div 220 = 500$ revolutions (1) (iii) $50 \times 220 = 11\,000$ cm $= 110$ m (2)	5
24	(i) $2 - 1 + 3 = 4$ (1) (ii) $-2 - 1 + 3 = 0$ (1) (iii) $16 - 4 + 3 = 15$ (1) (iv) $-x^2 + 3$ (2)	5
25 A	Number $10x + y$; $x + y = 11$ (1); $(10x + y) - (10y + x) = 45 \rightarrow x - y = 5$ (2); $x = 8$, $y = 3$; number = 83 (2)	5
25 B	$(x + 3)/(y + 3) = 2/3 \rightarrow 3x - 2y = -3$ (1½); $(x - 1)/(y - 1) = 1/2 \rightarrow 2x - y = 1$ (1½); solving, $x = 5$, $y = 9$; fraction 5/9 (2)	5
26	(i) 3 : 4 (1) (ii) 9 : 16 (1) (iii) $27 \times 16/9 = 48$ cm² (1) (iv) $9^2 + 12^2 = 225 = 15^2$, so it is a right triangle; area $= ½ \times 9 \times 12 = 54$ cm²; new area $= 54 \times (⅔)^2 = 24$ cm² (2)	5

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