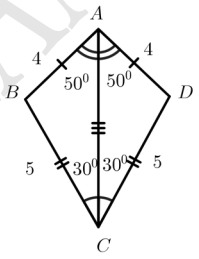
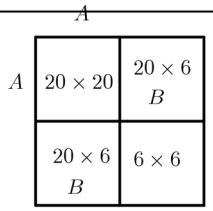
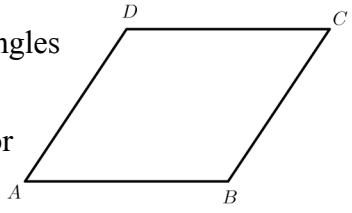
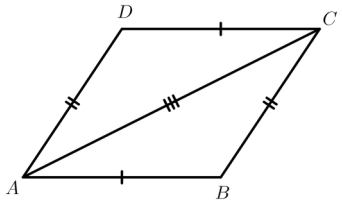
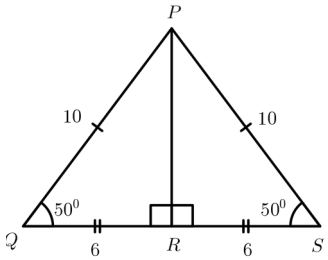
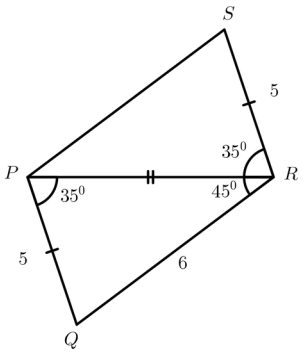
SUMMATIVE ASSESSMENT I - 2026 – 27

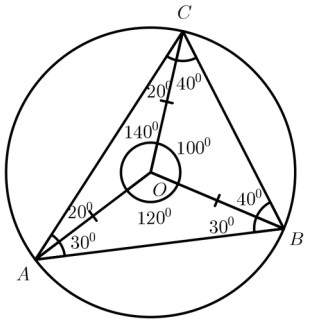
Class: VIII

MATHEMATICS - ANSWER KEY

E-803

Qn no	Key	Score
	SECTION A	
1	A) 1^2 $\left[\ 21^2 = 20^2 + (2 \times 20 \times 1) + 1^2\ \right]$	1
2	B) 45^0 [ABC is an isosceles triangle]	1
3	C) Both the statements are true , Statement II is the reason of Statement I	1
4	A) (i) and (iii) are true	1
	SECTION B	
5	$103^2 = (100+3)^2 = 100^2 + 2 \times 100 \times 3 + 3^2$ $= 10000 + 600 + 9 = 10609$	1 1
6	(i) $\angle DAC = 50^0$ (ii) $\angle ABC = 180 - (50+30) = 100^0$ [ABC and ACD are equal triangles] 	1 1
7	$A = 20$ $B = 20 \times 6 = 120$ 	1 1
8	$102 \times 98 = \left(\frac{102+98}{2}\right)^2 - \left(\frac{102-98}{2}\right)^2$ $= \left(\frac{200}{2}\right)^2 - \left(\frac{4}{2}\right)^2 = 100^2 - 2^2$	1 1
	SECTION C	
9(A)	$OA = OD$, $OB = OC$ $\angle AOB = \angle COD$ AOB and COD are equal triangles. So AB = CD . [Sides opposite the equal angles of equal triangles are equal]	1 1 1
9(B)	In the figure , ABCD is a parallelogram. $\angle A + \angle D = 180^0$ [AB is parallel to CD , sum of co interior angles is 180^0] $\angle D + \angle C = 180^0$ [AD is parallel to BC , sum of co interior angles is 180^0] $\therefore\ \angle A = \angle C$ $\angle B + \angle C = 180^0$ [AB is parallel to CD] $\therefore\ \angle B = \angle D$ 	1 1 1

	Another method In parallelogram ABCD , $AB = CD$, $AD = BC$. Draw diagonal AC . ABC and ACD are equal triangles. $\therefore \angle B = \angle D$ Similarly we can prove that $\angle A = \angle C$. 	
10	Area $= 5.3 \times 5.3 = (5.3)^2$ $= (5 + 0.3)^2 = 5^2 + 2 \times 5 \times 0.3 + (0.3)^2$ $= 25 + 3.0 + 0.09 = 28.09$	1 1 1
11(A)	(i) 1 $\left[\ 61^2 = 60^2 + (2 \times 60) + 1^2\ \right]$ (ii) $59^2 = (60 - 1)^2 = 60^2 - 2 \times 60 \times 1 + 1^2$ $= 3600 - 120 + 1 = 3481$	1 1 1
11(B)	(i) 1 , 11 , 21 , 31 , 41 , 51 (ii) General form of the natural numbers which leave remainder 1 on division by 10 1 $= 10n + 1$ $(10n + 1)^2 = (10n)^2 + 2 \times 10n \times 1 + 1^2$ $= 100n^2 + 20n + 1$ $= 10(10n^2 + 2n) + 1$ Ones place digit of the number got by adding 1 to the multiple of 10 is 1 .	1 1 1
12	(i) $(x - 1)^2$ (ii) $21^2 + 19^2 = (20 + 1)^2 + (20 - 1)^2$ $= 2(20^2 + 1^2) = 2\ (400 + 1) = 2 \times 401 = 802$	1 1 1
	SECTION D	
13	(i) $\angle S = 50^0$ (ii) $QR = \frac{12}{2} = 6\ cm$ (iii) In right triangle PQR , $PR = \sqrt{10^2 - 6^2}$ $= \sqrt{100 - 36} = \sqrt{64} = 8\ cm$ 	1 1 1 1
14(A)	PSR and PQR are equal triangles. (i) PS = 6 cm. (ii) $\angle PSR = 180 - (35 + 45) = 100^0$ (iii) Parallelogram 	1 1 1 1

14(B)	(i) $\angle AOC = 140^0$ [Sum of the angle around a point is 360^0] (ii) OA = OB = OC [Radii of a circle are equal] AOB , BOC and AOC are isosceles triangles . $\angle ABC = 30 + 40 = 70^0$, $\angle ACB = 20 + 40 = 60^0$, $\angle BAC = 20 + 30 = 50^0$ 	1 1 1 1
15	(i) Sides of the rectangles $= x + 3$, $x - 3$ (ii) Area of the square $= x^2$ Area of the rectangle $= (x + 3)(x - 3) = x^2 - 3^2 = x^2 - 9$ (iii) 9 sq.cm is more than the area of the smaller square .	1 1 1 1
16(A)	(i) $2 \times 18 = 36$ $16 \times 4 = 64$ Difference of the diagonal products $= 64 - 36 = 28$ (ii) (iii) $(x + 8)(x - 8) = x^2 - 8^2 = x^2 - 64$ $(x + 6)(x - 6) = x^2 - 6^2 = x^2 - 36$ Difference of the diagonal products $= 28$	 1 1 1 1
16(B)	(i) $20 = 4 \times 5 \times 1 = (5 + 1)^2 - (5 - 1)^2 = 6^2 - 4^2$ (ii) Algebra : $4 \times x \times 1 = (x + 1)^2 - (x - 1)^2$ Explanation : $(x - 1)^2 = (x + 1)^2 - 4 \times x \times 1$	1 2 1

2	3	4
9	10	11
16	17	18

$x-8$	$x-7$	$x-6$
$x-1$	x	$x+1$
$x+6$	$x+7$	$x+8$