

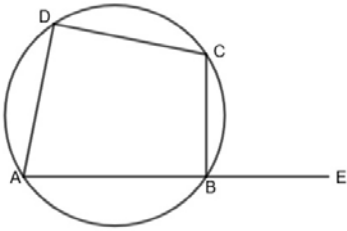
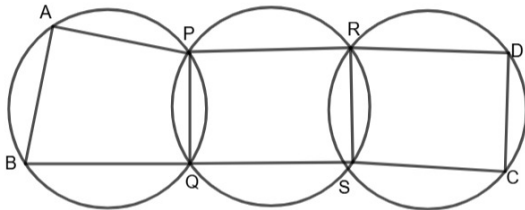
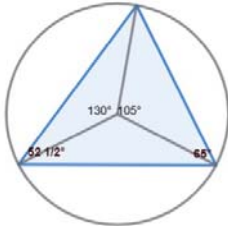
FIRST TERM SUMMATIVE ASSESSMENT 2026-27

MATHEMATICS

	Class : X		
1	A. 41		
2	A. 35^0		
3	C. 4 to be added		
4	D. 5		
5	C. $2/4 = 1/2$		
6	D (i), (iii) are correct.		
7	D. Both statements are correct. Statement 1 is not the reason for statement 2.		
8	C. Both statements are correct. Statement 1 is the reason for statement 2.		
	SECTION B		
9	A. (i) Here, when the position increases by 4, the term decreases by 18. The first term is 58. The fifth term is $58 - 18 = 40$. The ninth term is $40 - 18 = 22$. B (i) $135/7 = 27$ (ii) 15, 21, 27, 33, 39.....		
10	If the radius of the larger circle is taken as $2r$, the probability of being in the unshaded part is $\pi r^2 / 4\pi r^2 = 1/4$ The probability of being in the shaded part = $1 - 1/4 = 3/4$		
11	On dividing any term by the common difference 4, the remainder is 3. 2026 divided by 4 leaves remainder 2. Therefore, 2026 is not a term of this sequence. $4n - 1 = 211$ $4n = 212$ $n = 53$		
12	(i) $1 - 3/5 = 2/5$ (ii) $X \times 2/5 = 12$ $X = 12 \times 5/2 = 30$ (iii) The number of white beads = $30 \times 3/5 = 18$ $18 / (30+Y) = 1/2$ $36 = 30 + Y$ $Y = 6$ 6 more black beads		

13	A (i) $110/5 = 22$ (ii) $270/9 = 30$ (iii) When the position increases by 2, the term increases by 8. The third term is 22 and the fifth term is 30. Then the seventh term is $30 + 8 = 38$ 13 x Seventh term $13 \times 38 = 494$ B (i) $75/3 = 25$ (ii) $350/5 = 70$ (iii) $20/2 [X_5 + X_{16}]$ $= 10 \times 95 = 950$		
14	A (i) 15 (ii) $6/15 = 2/5$ (iii) $7/15$ B (i) 2250 (ii) $400/2250$ (iii) $1100/2250$ (iv) $2250 - 400 = 1850$ $1850/2250$		
15	(i) $X_{11} = 180/2 = 90$ (ii) $X_4 + X_{18} = 180$ $34 + X_{18} = 180$ $X_{18} = 146$ (iii) $28/2 [X_{11} + X_{18}]$ $= 14 \times 236 = 3304$		
	SECTION C		
16	5, 8, 11, (i) On dividing any term of this sequence by 3, the remainder is 2. When perfect squares are divided by 3, the remainder will be either 0 or 1. Therefore, no perfect square is a term of this sequence.		
17	Odd numbers - $X, X+2$ $X(X+2)+1=196$ $X^2 + 2X + 1 = 196$ $(X+1)^2 = 196$ $X+1 = 14$ $X = 13$ Odd numbers - 13, 15		

18	(i) $4n + 1$ (ii) $4 \times 25 + 1 = 101$ (iii) $25/2 [5 + 101] = 25 \times 53 = 1325$		
19	A (i) $20 \times 21/2 = 210$ (ii) $3 \times 210 = 630 [3 \times \{1+2+3+\dots+20\}]$ (iii) $20/2 [4+3 \times 20+1] = 10 \times 65 = 650$ B (i) 4, 10, 16, +7 +7 +7 11 17 23 $15 \times 7 = 105$ (ii) $10 \times 50 = 500$		
20	(i) 102 (ii) 396 (iii) $(396 - 102)/6+1$ $= 50$ $= 50/2 [102 + 396]$ $= 25 \times 498 = 12450$		
21	A (i) 2 (ii) $192/6 = 32$ remainder = 0 (iii) $n/2 [8 + 6n + 2]$ $= n/2 [10 + 6n]$ $= 5n + 3n^2$ $= 3n^2 + 5n$ B (i) $5 \times 12^2 - 2 \times 10$ $5 \times 100 - 20$ $= 480$ (ii) First term = 3 $d = 2 \times 5$ $= 10$ 3, 13, 23, 33,..... (iii) $10n+3-10$ $= 10n - 7$		
SECTION D			
22	(i) $\angle CBO = 40^\circ$ (ii) $\angle CAB = 50^\circ$ (iii) $\angle ACB = 25+40=65^\circ$		

23	A  $\angle ABC + \angle CBE = 180^\circ$ (Linear pair) $\angle ABC + \angle ADC = 180^\circ$ (Cyclic quadrilateral) $\angle ABC + \angle ADC = \angle ABC + \angle CBE$ $\angle ADC = \angle CBE$ B ABQP, PQSR, RSCD are cyclic quadrilaterals  $\angle A = X$, $\angle BQP = 180^\circ - X$; (Cyclic quadrilateral) $\angle PQS = X$ (Linear pair) $\angle PRS = 180^\circ - X$ $\angle SRD = X$ $\angle C = 180^\circ - X$ $\angle A + \angle C = 180^\circ$ ABCD is a cyclic quadrilateral		
24	A (i) $\angle ACD = 20^\circ$ (ii) $\angle CDB = 50^\circ$ (iii) $\angle AOD + \angle BOC = 40^\circ + 100^\circ = 140^\circ$ B (i) $\angle PSQ = 65^\circ$ (ii) $\angle PRB = 180 - 65 = 115^\circ$ (iii) $\angle RAS + \angle SBR = 130^\circ$		
25	(i) $\angle ADC = 90^\circ$ (ii) $\angle CAD = 20^\circ$ (iii) $\angle CBD = 20^\circ$ (iv) $\angle BAE = 70^\circ + 55^\circ = 125^\circ$		
26	$2 \times 52\frac{1}{2}^\circ \Rightarrow 105^\circ$ $2 \times 65^\circ \Rightarrow 130^\circ$  PREPARED BY : SEEMA SUGATHAN, HST (Maths)		