**SSLC Exam 2025**

**MATHS Answer key**

**(First 15 questions)**

Rest will be updated soon

**Questions 1 to 4 (Each question carries 2 scores)**

**1. In the figure, O is the centre of the circle. If ∠ACB=70∘∠*ACB*=70∘:**

- (a) ∠AOB=140∘ (Angle at the centre is twice the angle at the circumference)
- (b) ∠ADB=70∘

**2. 3, 8, 13, ..... is an arithmetic sequence:**

- (a) Common difference = 5
- (b) $11^{th}$ term = 3+(11−1)×5=53

**3. Numbers from 1 to 20 are written on paper slips:**

- (a) Probability of prime number = 8/20=2/5 (Primes: 2, 3, 5, 7, 11, 13, 17, 19)
- (b) Probability of perfect square = 4/20=1/5(Perfect squares: 1, 4, 9, 16)

**4. In the figure, O*O* is the centre of the circle. If BC=4*BC*=4 cm and ∠A=50∘∠*A*=50∘:**

$$\text{Diameter} = \frac{BC}{\sin A} = \frac{4}{0.77} \approx 5.19 \text{ cm}$$

**5. 6 times a natural number subtracted from the square of that number gives 187:**

- (a) Equation: x2−6x=187
- (b) Number = 17 (Solve x2−6x−187=0)

**6. (2, 5) and (3, 7) are two points on a line:**

- (a) Slope = 7−5/3−2=2
- (b) Equation: y−5=2(x−2) or y=2x+1

**7. Arithmetic sequence 2, 8, 14, ...:**

- (a) Remainder when divided by 6 = 2 (Each term is of the form 6k+2)
- (b) 176 is a term (Solve 2+(n−1)×6=176 , *n*=30)

**8. PB= 5cm**
**PD= 4cm**

**9. 9. Circle with centre (4, 3) and radius 5 units:**

- (a) Distance from centre to $x$-axis = 3 units
- (b) Points where circle cuts $x$-axis: $(4 \pm \sqrt{25-9}, 0) = (4 \pm 4, 0) = (8, 0)$ and $(0, 0)$

**11. Find the sum:**

- (a) $1 + 2 + 3 + \cdots + 20 = \frac{20 \times 21}{2} = 210$
- (b) $5 + 10 + 15 + \cdots + 100 = 5(1 + 2 + \cdots + 20) = 5 \times 210 = 1050$
- (c) $8 + 13 + 18 + \cdots + 103 = \frac{n}{2}(2a + (n-1)d)$, where $n = 20$, $a = 8$, $d = 5$ → Sum = 1110
- (d) $4 + 9 + 14 + \cdots + 99 = \frac{n}{2}(2a + (n-1)d)$, where $n = 20$, $a = 4$, $d = 5$ → Sum = 1030

**12. Length of a rectangular hall is 5 metres more than the breadth. Diagonal is 10 metres more than the breadth:**

- Let breadth = $x$, length = $x + 5$, diagonal = $x + 10$
- Equation: $x^2 + (x+5)^2 = (x+10)^2$
- Solve to get $x = 15$ m (breadth), length = 20 m

**13. Coordinates of points A (3, 2) and B (8, 7):**

**(a) Midpoint of AB = (5.5,4.5)**

**(b) Coordinates of P = (5,4)**

**14. The rectangle has sides 7 cm and 3 cm, and its area is 21 cm².**

**15. In triangle ABC, AB = 8 cm, BC = 10 cm, $\angle B = 50°$:**

- (a) Perpendicular distance from A to BC = $AB \times \sin 50° = 8 \times 0.77 = 6.16$ cm
- (b) Area = $\frac{1}{2} \times BC \times \text{height} = \frac{1}{2} \times 10 \times 6.16 = 30.8$ cm²