SSLC - MODEL EXAM - 2022

ANISWER KEY

Mask 1 (Part I)

(1.) 6, 10, 14

(2.) 'D'

(3.) 1

(4.) $\frac{1}{2}$

(5.) 1 : 4

(6.) $P(1) = 1^2 + a = 3$

(7.) $\tan x = \frac{3}{4}$

(8.) $PA \times PB = PC^2$

$4 \times 9 = PC^2$

$36 = PC^2$

36

(9.) (3, 1)

(10.) 4

(2 Mask) Part-II

(11.) $x_4 = \frac{84}{7} = 12$

(12.)

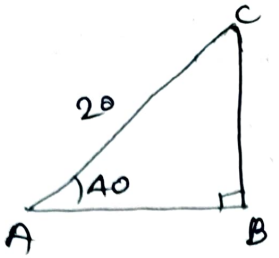
3-R	
6-G	
9	

(a) $\frac{3}{9} = \frac{1}{3}$

(b) 3

1

(13)



$\sin 40 = \frac{BC}{20}$

$BC = 20 \times .64$

$BC = \underline{12.80}$

(14) $x^2 - \frac{1}{4} = x^2 - (\frac{1}{2})^2$

$= (x - \frac{1}{2})(x + \frac{1}{2})$

(15) 20, 24, 25, 27, 28, 30, 32, 33, 36, 38

Median $= \frac{28+30}{2} = \underline{29}$

(16) $S_n = 2n^2 + 4n$

$X_1 = 2 + 4 = \underline{6}$

$d = \underline{4}$

(17) $A = \gamma s$

$\gamma = \frac{A}{s}$

$= \frac{84}{21}$

$= \underline{4}$

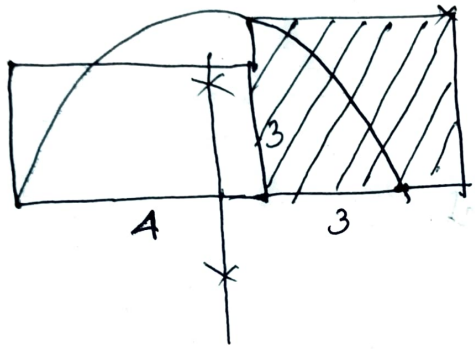
(18) $(x-a)^2+(y-b)^2=r^2$

$x^2+y^2=25$

Part III

Mark – 4

(19)



(20) Perimeter – 60 m

Area – $189\ m^2$

$x^2-30x+189=0$

$x^2-30x+15^2=-189+225$

$(x-15)^2=36$

$(x-15)^2=(\pm 6)^2$

$x-15=\pm 6$

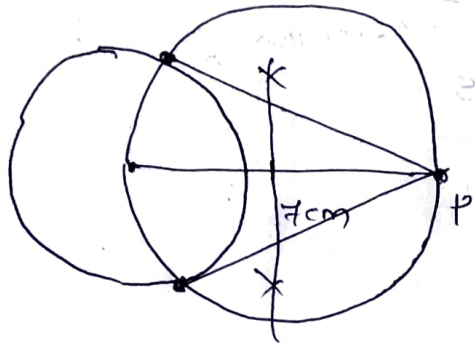
$x=\pm 6+15$

$x=21$ or 9

Sides 21 and 9

21 (a) 5 cm

(b)



(22) (a) (6, 10)

(b) (3, 5) → midpoint

(23)

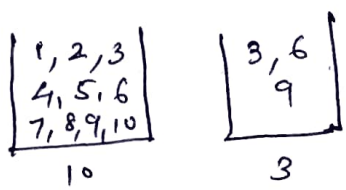
(a) $V = \frac{4}{3}\pi r^3$

$= \frac{4}{3}\pi \times 3 \times 3 \times 3$

$= 36\pi \text{ cm}^3$

(b) $V = 18\pi \text{ cm}^3$

(24)



(a) $\frac{10}{30} = \frac{1}{3}$

(b) $\frac{20}{30} = \frac{2}{3}$

(25) (a) $\angle A = 50^\circ$

(b) $BC = 28 \times \sin 50$

$= 14 \times .76$

$= \underline{10.64 \text{ cm}}$

Part IV
Mark - 6

(26) (a) B(9, 2)
(D)(1, 8)

(b) $AB = \sqrt{(9-1)^2 + (8-2)^2}$

$= \sqrt{8^2 + 6^2}$

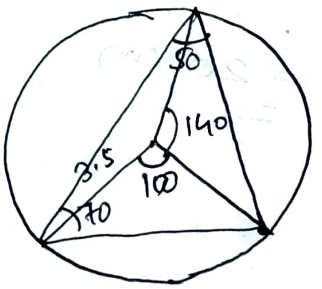
$= \sqrt{100} = \underline{10 \text{ cm}}$

(c) $\left(\frac{1+9}{2}, \frac{8+2}{2}\right) = \underline{(5, 5)}$

(27) (a) $\angle ACB = 70^\circ$

$\angle ADB = 110^\circ$

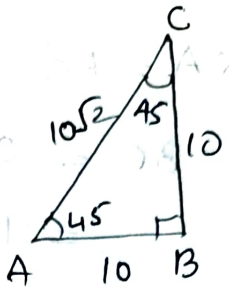
(b)



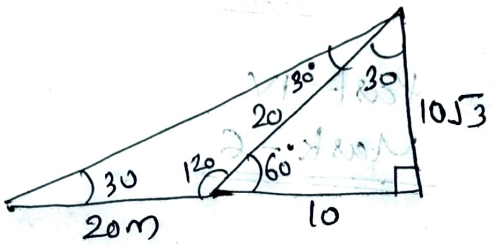
50 → 100

70 → 140

(28) (a) $AC = 10\sqrt{2}$



(b)



$30 : 60 : 90$
$1 : \sqrt{3} : 2$
$10 : 10\sqrt{3} : 20$

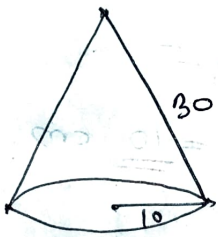
height of tower = $10\sqrt{3}$ m

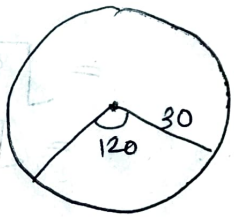
(29) (a)

$\frac{120}{360} = \frac{r}{30}$

$\frac{30}{3} = r$

$r = 10$





(b) C.S.A $= \pi r l = \pi \times 10 \times 30$

$= 300\pi \text{ cm}^2$

$\because \frac{r}{24} = \frac{\phi}{360} = \frac{r}{30}$

$r = \frac{4 \times 30}{6} = 20$ cm

(30) (a) $\frac{10 \times 11}{2} = 55$

(b) $\frac{n(n+1)}{2} = 300$

$n^2 + n = 600$

$n^2 + n - 600 = 0$

$n = \frac{-1 \pm \sqrt{1 + 4 \times 1 \times 600}}{2}$

$= \frac{-1 \pm 49}{2} = \frac{48}{2} = 24$

(31) $P(x) = x^2 - 5x + 6$

(a) $P(2) = 2^2 - 5(2) + 6$

$= 4 - 10 + 6$

$= 0$

(b) $(x-2)(x-3)$

(c) $x = 2$

$x = 3$

(32)

Wage	no: of workers
600	5
700	12
800	22
900	30
1000	35

$d = \frac{100}{100} = 10$

Median $= \left(\frac{35+1}{2}\right)^{th} = (18^{th})$

(a)(i) 18^{th}

(ii) 705

(b) Median = 755

Part 5
Mark - 8

(33) (a) $X_n = 3n+1$

(b) $X_{20} = 3\times20+1 = \underline{61}$

least 3 digit no: is $= \underline{100}$

(c) $S_{20} = \frac{20}{2}[A+61]$

$= 10[65] = \underline{650}$

If $X_n = 3n+2$

difference of Sum's $= \underline{20} \Rightarrow (20\times1)$

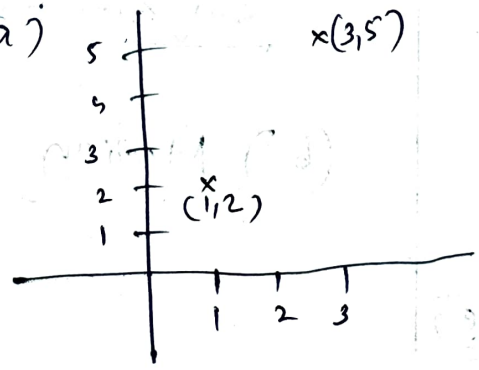
34 (a) (i) $\angle OQB = 90$

(ii) Yes, because $\angle OQB + \angle OPB = 90^\circ + 90^\circ = \underline{180}$

(iii) $\angle POQ = 130^\circ$

(b) Construction

(35) (a)



(b) Slope: $\frac{5-2}{3-1} = \frac{3}{2}$ //

(c) $y-2 = \frac{3}{2}(x-1)$

$2y-4 = 3x-3$

$2y = 3x+1$

$y = \frac{3x+1}{2}$

$y = \frac{3\times21+1}{2} = \underline{32}$

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