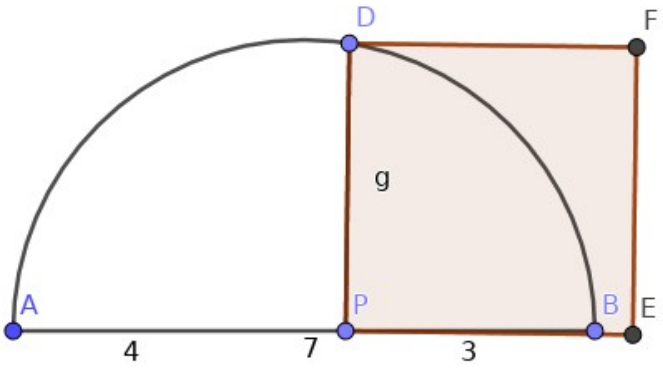
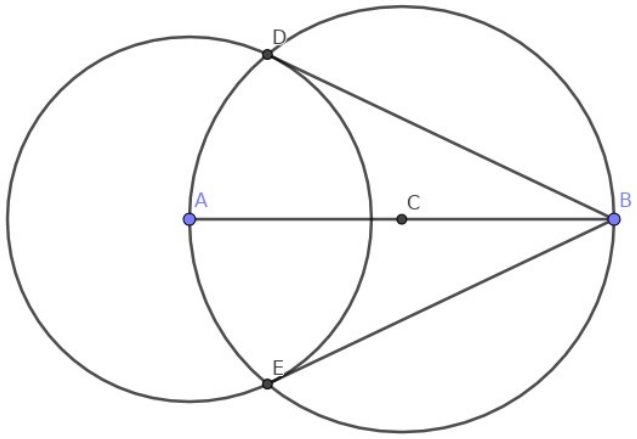
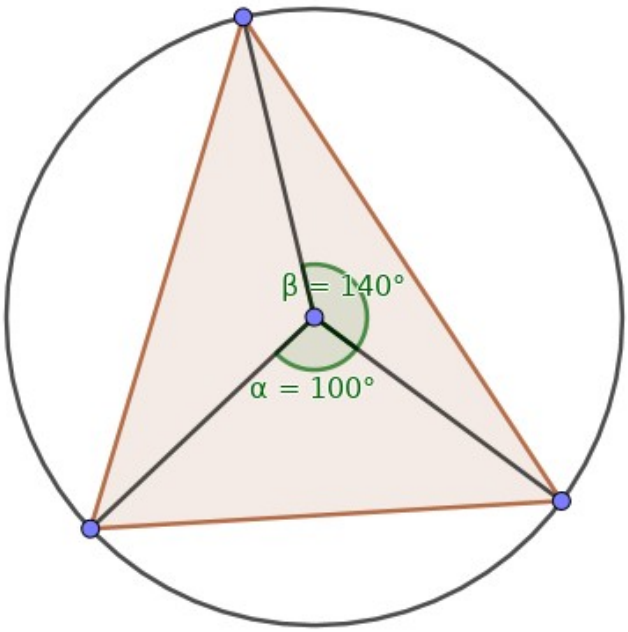
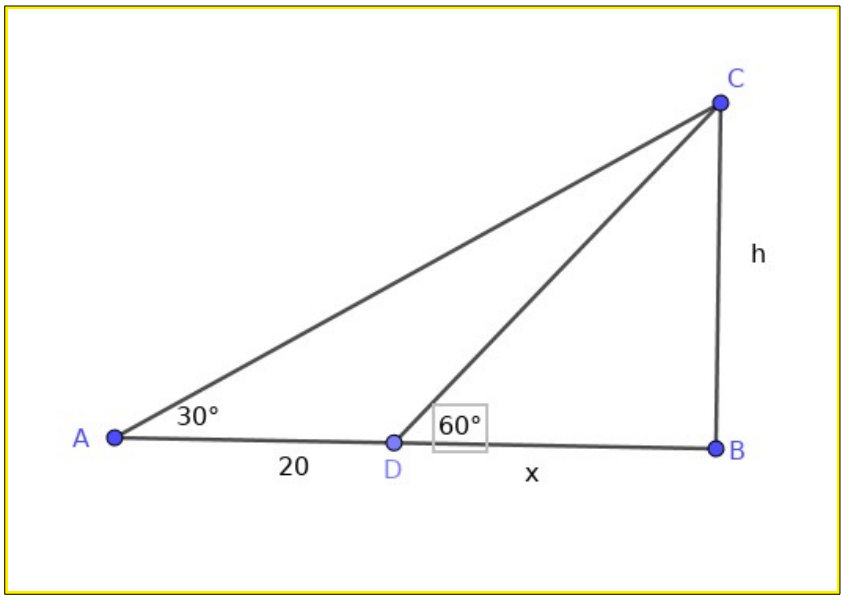
SSLC MODEL EXAMINATION , MARCH 2022
MATHEMATICS

1	6,10,14,...	1
2	C – Inside Circle D – On the circle E – Outside Circle	1
3	(0,1)	1
4	$\frac{1}{2}$	1
5	1:4	1
6	$P(x)=x^2+2x+k$ $P(1) = 1+2+k$ $3+k=0$ $k=-3$ $P(x)=x^2+2x-3$ $(x-1)(x+3)$	1
7	Tan x = $\frac{3}{4}$	1
8	$PA * PB = PC^2$ $9*4 = PC^2$ PC =6 Area $=36cm^2$	1
9	y=2x (3,1) is not a point	1
10	 e=5 a=6 $l=\sqrt{25-9}=\sqrt{16}=4$	1
11	Sum of first 7 terms =84 $X_4 = 84/7$ $X_4 =$ **12**	2
12	(a) $\frac{3}{9} = \frac{1}{3}$ (b) 3 more red balls	1 1
13	Sin 40= $\frac{BC}{AC}$ 0.64 = $\frac{BC}{20}$ BC=12.8cm	2

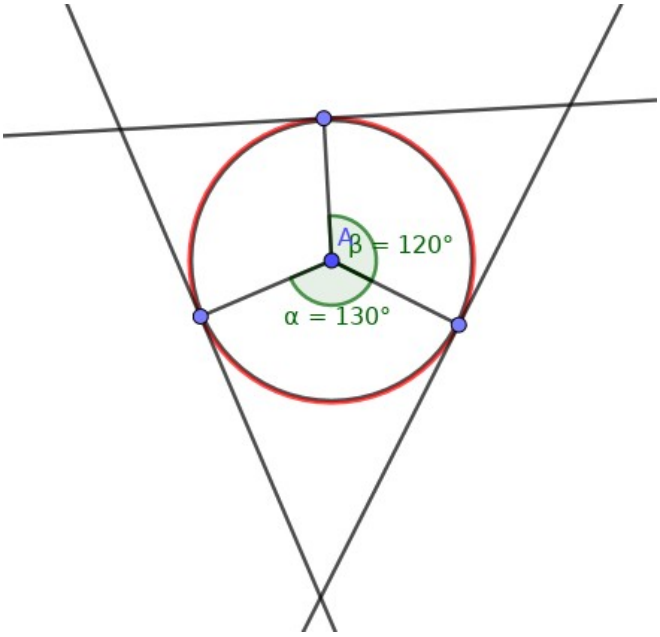
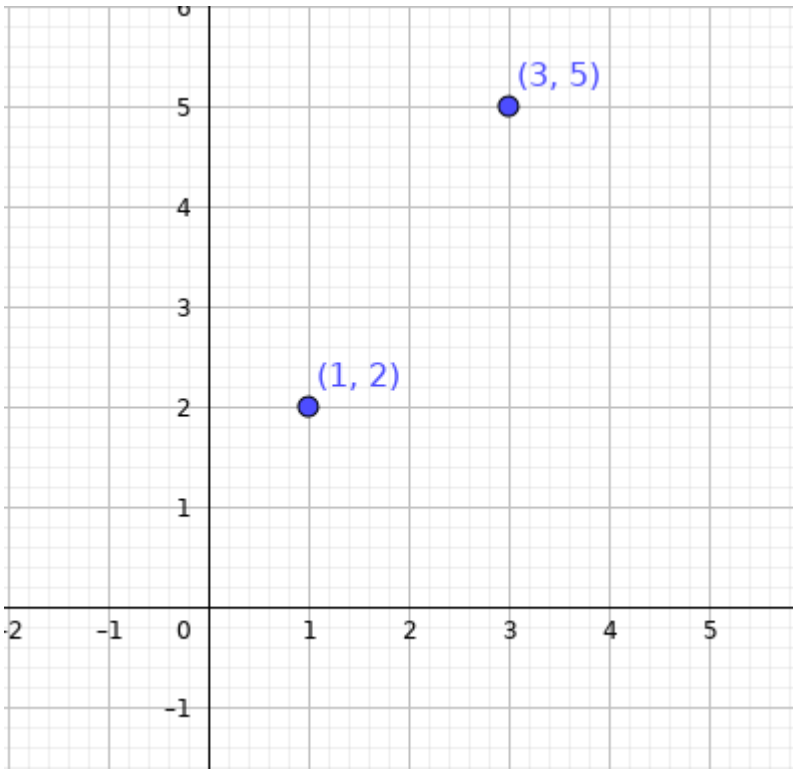
14	$x^2 - \frac{1}{4} = (x+\frac{1}{2})(x-\frac{1}{2})$	
15	20,24,25,27,28,30,32,33,36,38 Median = (28+30) /2 =**29**	
16	$S_1 = 2*1+4*1 = 6$ $S_2 = 2*4+4*2 = 16$ $X_1=6$ $X_2 = 16-6=10$ 6,10,..... f=6 d=4	
17	**r=Δ/s** S= P/2 r= 84/21 r=4	
18	$x^2+y^2 = 25$	
19		
20	2(l+b)=60 l+b=30 l=x b=30-x x(30-x)=189 x=**21,9**	

21(a)	PA=5 PB=5	
21(b)		
22 (a)	(6,10)	
(b)	(3,5)	
23 (a)	a=6cm d=6cm r=3 V= $\frac{4}{3}$ ∏ 3*3*3 = 36∏ c cm	
(b)	18∏ cm^3	
24 (a)	15/30 =1/2	
(b)	1-1/2=2/3	
25 (a)	<A= 50	
(b)	Sin 50 = BC/14 BC= 0.76* 14 =**10.64cm**	
26 (a)	B(9,2) ,D(1,8)	
(b)	**AC= 10**	
(c)	**(5,5)**	
27 (a)	<ACB= 70, <ADB=110	

(b)		
28	In ΔABC <A=45,<B=90 ie <C=45 ΔABC is isoscles BC=10 AC= 10√2	
	 In ΔDBC tan 60 = h/x √3 = h/x	

	h= **x√3** .....(1)	
	In ΔABC tan 30 = $\frac{h}{20+x}$ 1/√3 =h/20+x h√3 =20+x **x√3 *√3 =20+x** **3x=20+x** **x=10** **h=10√3 cm**	
29 (a)	R=30 x=120 l=30 $\frac{x}{360} = \frac{r}{30}$ $\frac{120}{360} = \frac{r}{30}$ r=10	
(b)	CSA= ∏rl= 300∏	
(c)	$\frac{240}{360} = \frac{r}{30}$ r=20	
30 (a) (b)	1+2+3+....+10= 10*11/2 =55 n(n+1) $\frac{n(n+1)}{2}$ =300 n(n+1)=600 n=24	
31 (a) (b)	P(2) = 4-10+6 = 0 x^2-5x+6 = (x-3)(x-2)	

(c)	3,2	
32	N=35 Median Employee =35+1/2 =18th 700-710 .. 13th 13th =705 710-720 ...14th 720-730... 15th .... .. 750-760 =18th 755 th 18th	
33 (a) (b) (c)	4,7,10,.... x_n= 4-3+3n =1+3n x_{20}= 61 S_{20} =20/2[4+61] =10* 65 =650 3n+2 5,8,11,14,..... each term is 1 more than given A.P sum difference =20	
34 (a) (b) (c)	 <OQB= 90 <P=90 ,<B+<O=180 so POQB is cyclic <POQ= 130	

		
35		
35	(a) Slope =(5-2)/(3-1) = 3/2 (b)Equation of line **2y-3x=1** 2y=3x+1 (c) **x=21 y=32**	