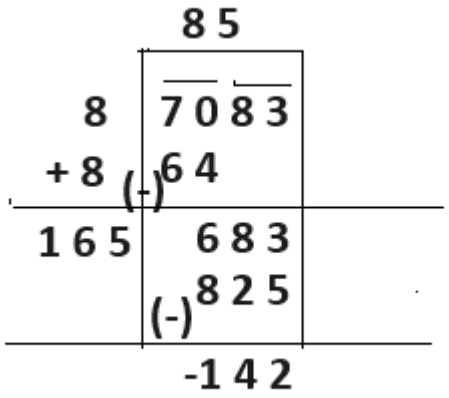
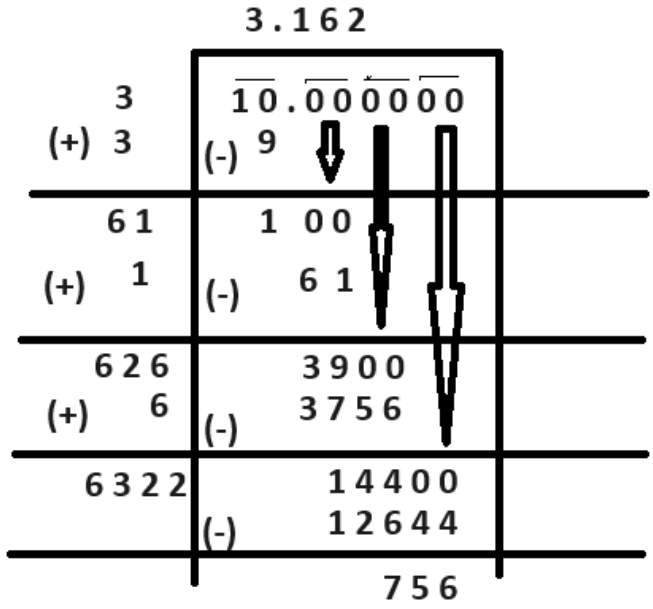
ANNEXURE-C

DAV PUBLIC SCHOOLS, ODISHA ZONE				
PA-II EXAMINATION, [2023-24] SUBJECT: MATHEMATICS CLASS: VIII				
MARKING SCHEME				
SL NO	**VALUE POINTS**	**Marks Allotted to each value Point / Key Points**	**Total Marks**	**PAGE NO. OF NCERT/ TEXTBOOK**
1.	C.46	**[1]**	**[1]**	**PAGE-22**
2.	A.10	**[1]**	**[1]**	**PAGE-23**
3.	D. (xy) remains constant	**[1]**	**[1]**	**PAGE-64**
4.	C.8	**[1]**	**[1]**	**PAGE-64**
5.	A.5%	**[1]**	**[1]**	**PAGE-79**
6.	C.4	**[1]**	**[1]**	**PAGE-125**
7.	C. (0,-2)	**[1]**	**[1]**	**PAGE-216**
8.	C.4 units	**[1]**	**[1]**	**PAGE-226**
9.	B.8 m	**[1]**	**[1]**	**PAGE-231**
10.	B.Volume of the cylinder will remain unchanged.	**[1]**	**[1]**	**PAGE-248**
11.	a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).	**[1]**	**[1]**	**PAGE-5**
12.	d) Assertion (A) is false but reason (R) is true.	**[1]**	**[1]**	**PAGE-164**
13.	a) B. Alternate exterior Angle	**[1]**	**[1]**	**PAGE-164**
	b) D. 90°	**[1]**	**[1]**	
	c) $y = 130°$, $p = 50°$ OR $x = 130°$, $m = 130°$	**[1]** **[1]** **[1]** **[1]**	**[2]**	
14.	a) C.3.5 m	**[1]**	**[1]**	**PAGE-248**
	b) B.770 cu.m volume of earth that will be dug out $= \pi r^2 h$ $= \frac{22}{7} \times \frac{7}{2} \times \frac{7}{2} \times 20$ $= 770\ cubic\ m$	**[1]**	**[1]**	
	Let Height of platform is h m ATQ, $22 \times 14 \times h = 770$ $\Rightarrow h = \frac{770}{22 \times 14}$ $= 2.5\ m$	**[$\frac{1}{2}$]** **[$\frac{1}{2}$]** **[1]**	**[2]**	

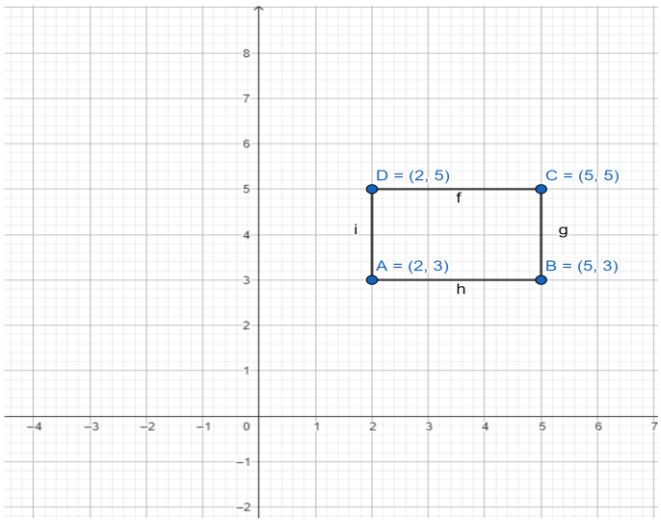
	OR CSA of the well $= 2\pi rh$ $= 2 \times \frac{22}{7} \times \frac{7}{2} \times 20$ $= 440\ sq.cm$	 $[\frac{1}{2}]$ $[\frac{1}{2}]$ **[1]**		
15.	$3750 = 2 \times 3 \times 5^4$ If we will multiply $2 \times 3 = 6$ with 3750 then the product will be a perfect square.	**[1]** **[1]**	**[2]**	**PAGE-10**
16.	 The least number which must be added to 7083 to get a perfect square is 142 **OR** $\sqrt{20} + \sqrt{27}$ $= 2\sqrt{5} + 3\sqrt{3}$ $= 2 \times 2.236 + 3 \times 1.732$ $= 4.472 + 5.196$ $= 9.668$	**[1 $\frac{1}{2}$]** $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$	**[2]**	**PAGE-10** **PAGE-23**
17.	Let the original Number be x Cube of the original number $= x^3$ If the number is tripled then the new number $= 3x$ Cube of New Number $= (3x)^3$ $= 27x^3$ $= 27 \times x^3$ =27 times the cube of original number Hence Proved	$[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$	**[2]**	**PAGE-35**
18.	Volume of box $= (60 \times 54 \times 30)\ cu.cm$ Volume of Small cube $= (6 \times 6 \times 6) cu.cm$ Number of small cubes$= \frac{60 \times 54 \times 30}{6 \times 6 \times 6} = 450$	$[\frac{1}{2}]$ $[\frac{1}{2}]$ **[1]**	**[2]**	**PAGE-245**
19.	$4.2x = 7.1 \times 7.1 - 2.9 \times 2.9$ $\Rightarrow 4.2x = 7.1^2 - 2.9^2$ $\Rightarrow 4.2x = (7.1 + 2.9)(7.1 - 2.9)$ $\Rightarrow 4.2x = 10 \times 4.2$ $\Rightarrow x = 10$	$[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$	**[2]**	**PAGE-126**

20.	$a^4 + \frac{1}{a^4}$ $= \left(a^2 + \frac{1}{a^2}\right)^2 - 2 \times a^2 \times \frac{1}{a^2}$ $= 6^2 - 2 = 36 - 2 = 34$ OR $a^2 - 5a - 6$ $= a^2 - 6a + a - 6$ $= a(a-6) + 1(a-6)$ $= (a-6)(a+1)$	 **[1]** **[1]** **[1]** $[\frac{1}{2}]$ $[\frac{1}{2}]$	**[2]**	**PAGE-125** **PAGE-124**
21.	$y = 2x$ $4x + 2x = 180°$ $\Rightarrow x = 30°$	$[\frac{1}{2}]$ **[1]** $[\frac{1}{2}]$	**[2]**	**PAGE-168**
22.	$F = 6$ $E = 12$ $V + F - E = 2$ $\Rightarrow V + 6 - 12 = 2$ $\Rightarrow V = 8$ Cuboid	 $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$	**[2]**	**PAGE-256**
23.	Side of Square field $= \sqrt{5184} = 72\ m$ Perimeter of Square field $= 4 \times side = 4 \times 72 = 288\ m$ Let Breadth of rectangular field be $x\ m$ Length of rectangular field be $2x\ m$ Perimeter of rectangular field be $6x\ m$ ATQ, $6x = 288 \Rightarrow x = 48\ m$ Length of rectangular field be $96\ m$ Breadth of rectangular field be $48\ m$ Area of rectangular field be $4608\ sq.m$ **OR** Area of each Square piece of cloth $= \frac{9}{16}\ sq.m$ Area of each Square piece of cloth $= \sqrt{\frac{9}{16}} = \frac{3}{4} m = 75\ cm$	$[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ **[1]** **[2]**	**[3]**	**PAGE-23** **PAGE-21**

24.	$\sqrt{10} = 3.162 \ldots\ldots\ldots \simeq 3.16$  	$[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$	**[3]**	**PAGE-21**
25.	$\sqrt[3]{288\sqrt[3]{54\sqrt[3]{64}}}$ $= \sqrt[3]{288\sqrt[3]{54 \times 4}}$ $= \sqrt[3]{288\sqrt[3]{216}}$ $= \sqrt[3]{288 \times 6}$ $= \sqrt[3]{1728}$ $= 12.$	$[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ **[1]**	**[3]**	**PAGE-36**
26.	Total distance covered $= 210 + 90 = 300\ m$ Distance covered in 12 seconds $= 300\ m$ Distance covered in 1 seconds $= y\ m$ It is a case of direct variation $\frac{12}{300} = \frac{1}{y}$ $\Rightarrow y = 25$ Speed of train $= 25\frac{m}{s}$	**[1]** **[1]** $[\frac{1}{2}]$	**[3]**	**PAGE-63**

Time in second (x)	12	1
Distance in m. (y)	300	y

	$= \left(25 \times \frac{18}{5}\right)\frac{km}{hr} = 90\frac{km}{hr}$	$[\frac{1}{2}]$		
27.	Marked Price of TV , $MP = Rs.32500$ % Discount $= 20\%$ Selling Price of TV , $SP = MP\left(\frac{100 - Discount\%}{100}\right)$ $= 32500\left(\frac{100 - 20}{100}\right)$ $= Rs.26000$ Profit% $= 30\%$ Cost Price of TV , $CP = \frac{SP \times 100}{100 + Profit\%}$ $= \frac{26000 \times 100}{100 + 30}$ $= \frac{26000 \times 100}{130}$ $= Rs.20000$ **OR** Total number of Blade packets $= 250$ Number of Blade packets of SP Rs. 11 per packet $= 75\%\ of\ 250 = 175$ Number of Blade packets of SP Rs. 9 per packet $= 250 - 175 = 75$ Total CP $= 250 \times 8 = Rs.2000$ Total SP $= 175 \times 11 + 75 \times 9 = Rs.2600$ Profit $= sp - cp = 1600 - 2000 = Rs.600$ % Profit $= \frac{Profit}{CP} \times 100 = \frac{600}{2000} \times 100 = 30\%$	**[1 $\frac{1}{2}$]** **[1 $\frac{1}{2}$]** **[1]** **[1]** **[1]**	**[3]**	**PAGE-76** **PAGE-71**
28.	The area of a circle $= (\pi x^2 + 10\pi x + 25\pi)$ square units $\Rightarrow \pi r^2 = \pi(x^2 + 10x + 25)$ $\Rightarrow r^2 = (x + 5)^2$ $\Rightarrow r = (x + 5)\ units$ Circumference of circle $= 2\pi r$ $= 2 \times \pi \times (x + 5)$ $= (2x + 10)\pi\ units$	**[1]** **[1]** **[1]**	**[3]**	**PAGE-127**

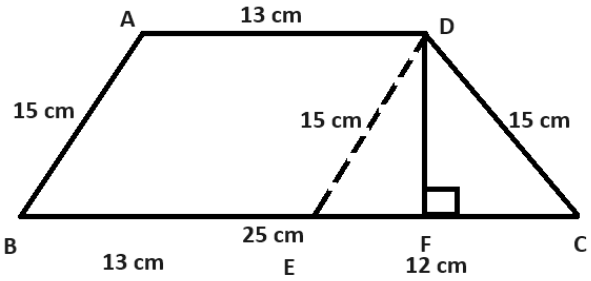
29.	$\angle ABD = \angle ADB = x$ $\angle ABD = \angle BDC = x$ $\angle ADC = 2x$ $x = 180° - (90° + 55°) = 180° - 145° = 35°$ [Co-interior Angle] $2x + y = 180°$ [Co-interior Angle] $y = 110°$ **OR** $y = 180° - 110° = 70°$ [Co-interior Angle] $x = 180° - (70° + 50°) = 60°$ [Angle sum property of Triangle] $w = 180° - 70° = 110°$ [Co-interior Angle] $z = x = 60°$ [Corresponding Angle] $p = 180° - (70° + 60°) = 50°$ [Angle sum property of Triangle]	**[1]** **[1]** **[1]** $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ $[\frac{1}{2}]$ **[1]**	**[3]**	**PAGE-171** **PAGE-178**
30.	For Correct Scale For Correct Plotting  ABCD is a rectangle	$[\frac{1}{2}]$ $[1\frac{1}{2}]$ **[1]**	**[3]**	**PAGE-218**
31.	560 Persons can complete the stadium in 9 months Let x Persons can complete the stadium in 5 months It is a case of inverse variation $560 \times 9 = x \times 5$	**[1]** **[1]**	**[5]**	**PAGE-59**

Number of persons (x)	560	x
Number of months (y)	9	5

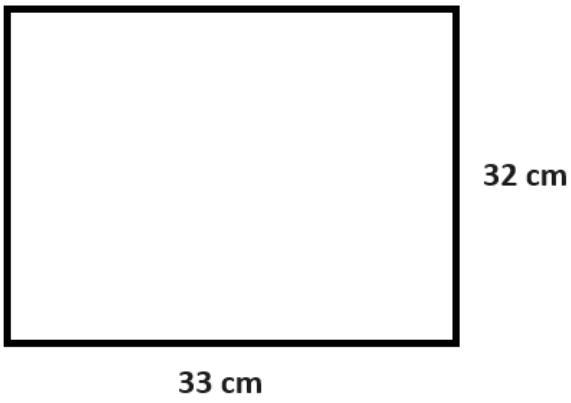
	$\Rightarrow x = \frac{560 \times 9}{5} = 1008$ Number of extra persons $= 1008 - 560 = 448$ **OR** 500 students can accommodate for 30 days 100 students joined after 6 days 500 students can accommodate for 24 days Let 600 students can accommodate for y days It is a case of inverse variation $500 \times 24 = 600 \times y$ $\Rightarrow y = \frac{500 \times 24}{600} = 20\ days$	**[2]** **[1]** **[1]** **[1]** **[1]** **[1]**		

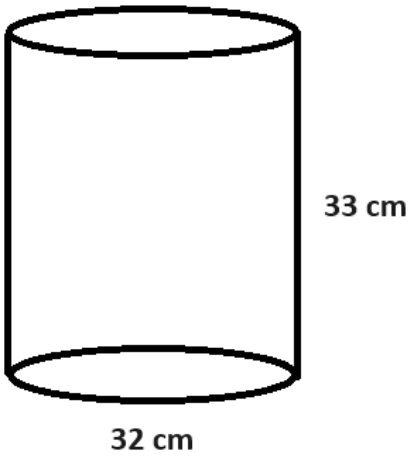
Number of students (x)	500	600
Number of days (y)	24	y

32.	SP of First Jean $= Rs.990$ % Gain$= 10\%$ CP of First Jean$= \frac{SP \times 100}{100 + \%\ Gain} = \frac{990 \times 100}{100+10} = Rs.900$ SP of First Jean $= Rs.990$ % Loss$= 10\%$ CP of First Jean$= \frac{SP \times 100}{100 - \%\ Loss} = \frac{990 \times 100}{100-10} = Rs.1100$ Total CP $= 900 + 1100 = Rs.2000$ Total SP $= 990 + 990 = Rs.1980$ Loss $= 2000 - 1980 = Rs.20$ %Loss $= \frac{20}{2000} \times 100 = 1\%$	**[1]** **[1]** **[1]** **[1]** **[1]**	**[5]**	**PAGE-71**
33.	$a^2 + \frac{1}{a^2} = \left(a + \frac{1}{a}\right)^2 - 2 \times a \times \frac{1}{a} = \left(\frac{17}{4}\right)^2 - 2$ $= \frac{289}{16} - 2 = \frac{257}{16}$ $\left(a - \frac{1}{a}\right)^2 = a^2 + \frac{1}{a^2} - 2 \times a \times \frac{1}{a} = \frac{257}{16} - 2 = \frac{225}{16}$ $\Rightarrow \left(a - \frac{1}{a}\right) = \sqrt{\frac{225}{16}} = 15/4$ N.B: Anyone can also use identity of $4ab$	**[2]** **[2]** **[1]**	**[5]**	**PAGE-125**

34.	 By completing figure $a = 13\ cm$ $b = 25\ cm$ $h = \sqrt{15^2 - 6^2} = 3\sqrt{21}$ Area of Trapezium $= \frac{1}{2}(a + b) \times h$ $= \frac{1}{2} \times 38 \times 3\sqrt{21}$ $= 57\sqrt{21}\ sq.cm$	**[2]** **[1]** **[1]** **[1]**	**[5]**	**PAGE-232** **PAGE-248**

OR





A rectangular sheet is rolled to make a cylinder along its breadth. Then breadth of the rectangle is become the **[1]**

	circumference of the base the cylinder and length become the length of the cylinder. So, length cylinder= $h = 33\ cm$ Base perimeter $= 32\ cm$ $2\pi r = 32\ cm$ radius, $r = \frac{16}{\pi}$ cm Volume of cylinder $= \pi r^2 h$ $= \pi \times \frac{16}{\pi} \times \frac{16}{\pi} \times 33$ $= \frac{16 \times 16 \times 33 \times 7}{22}$ $= 2688\ cm^3$ $1\ litre = 1000\ cm^3$ Capacity $= \frac{2688}{1000} = 2.688\ litre$	**[1]** **[1]** **[1]** **[1]**		