KENDRIYA VIDYALAYA SANGATHAN, REGIONAL OFFICE LUCKNOW

MARKING SCHEME

CLASS VIII

SUBJECT:- MATHEMATICS

TIME ALLOWED : 2Hours 30Mins **MAXIMUM MARKS:60**

	SECTION A
1	A) 86200
2	B) (t+4) (t +4)
3	C) a^2-b^2
4	A) 31
5	C) 1/16
6	B) y will decrease
7	D) 125 cm^3
8	C) 26
9	C) 0
10	C) 8a-2ab+2b-15
11	C) 21 cm
12	A) $2m+m^2$
13	B) 1.6×10^{-19}coulomb
14	C) 4
15	B)8
	SECTION C
16	36 OR 1.5
17	(a) 36.5° (b) 12 noon
18	3
19	y = 2/3
20	Area of rhombus$=\frac{1}{2}\times d_1\times d_2$ 1 $=\frac{1}{2}\times 16\times 10.2$ $=81.6\ cm^2$ 1 OR Area of trapezium$=\frac{1}{2}\times(a+b)\times h$ 1 $=\frac{1}{2}\times(1+1.2)\times 0.8$ $=0.88m^2$ 1
	SECTION D

21 Let the number of bottles filled in five hours = x

Hours	1	x
Bottles	75	1800

Here ratio of hours and bottles are in direct proportion. 1

$\therefore \frac{6}{840} = \frac{5}{x}$ 1

x =700 bottles 1

OR

Let the length of model ship = x

Length of actual ship (in m)	12	28
Length of model ship (in cm)	9	x

Here ratio length of model ship and length of actual ship are in direct proportion. 1

$\therefore \frac{12}{9} = \frac{28}{x}$ 1

x =21 cm 1

22 $5x-2(2x-7)=2(3x-1)+\frac{7}{2}$

$5x-4x-14=6x-2+\frac{7}{2}$ 1

$x + 14 =6x +\frac{3}{2}$

$5x=14 -\frac{3}{2}$ 1

$x = \frac{5}{2}$ 1

23 (i) The student scored 105 marks in Hindi. 1

(ii) Marks obtained in Mathematics=135
Marks obtained in Hindi=105
Difference=135-105=30
Thus, 30 more marks were obtained by the student in Mathematics than in Hindi. 1

(iii) The sum of marks in Social Science and Mathematics = 97.5 + 135 = 232.5
The sum of marks in Science and Hindi = 120 + 105 = 225
Yes, the sum of the marks in Social Science and Mathematics is more than that in Science and Hindi. 1

OR

(i) The probability of getting a green sector= $\frac{4}{7}$ **1**

(ii) the probability of getting a non blue= $\frac{5}{7}$ **1**

(iii) the probability of a getting a non red sector= $\frac{6}{7}$ 1

24

$$4c(-a+b+c)-\left[3a(a+b+c)-2b(a-b+c)\right]$$
$$= -4ac+4bc+4c^2-\left[3a^2+3ab+3ac-2ab+2b^2-2bc\right]$$
$$= -4ac+4bc+4c^2-\left[3a^2+2b^2+3ab-2bc+3ac-2ab\right]$$
$$= -4ac+4bc+4c^2-\left[3a^2+2b^2+ab+3ac-2bc\right]$$
$$= -4ac+4bc+4c^2-3a^2-2b^2-ab-3ac+2bc$$
$$= -3a^2-2b^2+4c^2-ab+4bc+2bc-4ac-3ac$$
$$= -3a^2-2b^2+4c^2-ab+6bc-7ac$$

25

Diameter of road roller = 84 cm

Radius of road roller(r)= $\frac{84}{2} = 42\ cm$

Length of road roller (h)= 1 m = 100 cm

Curved surface area of road roller = $2\pi rh = 2\times\frac{22}{7}\times42\times100=26400 cm^2$ 1

∴Area covered by road roller in 750 revolutions = 26400 x 750

$= 1,98,00,000\ cm^2$ 1

$= 1980\ m^2$[$1\ m^2 = 10,000\ cm^2$]

Hence, the area of the road is 1980 m^2 **1**

SECTION E

26

Let the distance travelled (in km) in 20 minutes be x and time taken (in minutes) to cover 250 km be y.

Distance travelled (in km)	75	x	250
time taken (in minutes)	60	20	y

Since the speed is uniform, therefore, the distance covered would be directly proportional to time. 1

(i) We have $\frac{75}{60} = \frac{x}{20}$

x= 25 km

So, the train will cover a distance of 25 km in 20 minutes. 1

(ii) Also $\frac{75}{60} = \frac{250}{y}$

y= 200 mints

Therefore, 3 hours 20 minutes will be required to cover a distance of 250 kilometres. 1

Let distance covered in the map be x.

Actual distance (in km)	18	72
distance covered in map (in cm)	1	x

Here actual distance and distance covered in the map are in direct proportion.

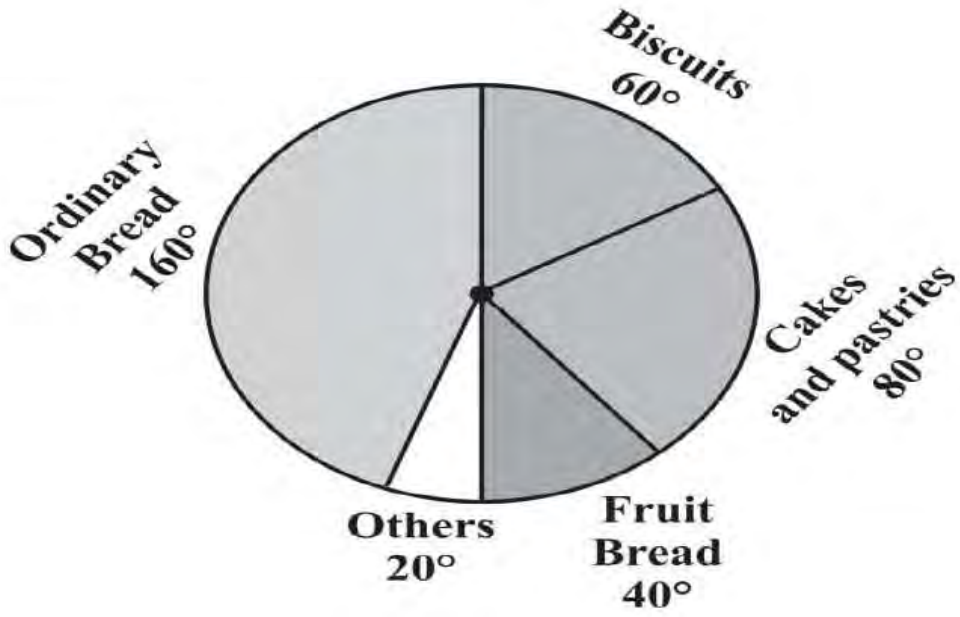
$\therefore \frac{18}{1} = \frac{72}{x}$

x =4 cm 1

27. We find the central angle of each sector. Here the total sale = 720.
We thus have this table. 2

Item	Sales (in ₹)	In Fraction	Central Angle
Ordinary Bread	320	$\frac{320}{720}=\frac{4}{9}$	$\frac{4}{9}\times 360^\circ = 160^\circ$
Biscuits	120	$\frac{120}{720}=\frac{1}{6}$	$\frac{1}{6}\times 360^\circ = 60^\circ$
Cakes and pastries	160	$\frac{160}{720}=\frac{2}{9}$	$\frac{2}{9}\times 360^\circ = 80^\circ$
Fruit Bread	80	$\frac{80}{720}=\frac{1}{9}$	$\frac{1}{9}\times 360^\circ = 40^\circ$
Others	40	$\frac{40}{720}=\frac{1}{18}$	$\frac{1}{18}\times 360^\circ = 20^\circ$

Now, we make the pie chart 2



28	(i) $x^2 + 6x - 16 = x^2 - 2x + 8x - 16 = x(x-2) + 8(x-2) = (x+8)(x-2)$ (ii) $x^4 - (y+z)^4 = (x^2)^2 - [(y+z)^2]^2$ $= [x^2 - (y+z)^2][x^2 + (y+z)^2] \quad [\because a^2 - b^2 = (a-b)(a+b)]$ $= [x-(y+z)][x+(y+z)][x^2 + (y+z)^2] \quad [\because a^2 - b^2 = (a-b)(a+b)]$ $= (x-y+z)(x+y+z)[x^2 + (y+z)^2]$ **OR** (i) $12xy(9x^2 - 16y^2) \div 4xy(3x+4y) = \frac{12xy(9x^2 - 16y^2)}{4xy(3x+4y)}$ $= \frac{12xy[(3x)^2 - (4y)^2]}{4xy(3x+4y)}$ $= \frac{12xy(3x-4y)(3x+4y)}{4xy(3x+4y)} \quad [\because a^2 - b^2 = (a-b)(a+b)]$ $= 3(3x-4y)$ (ii) $p^2 + 6p + 8 = p^2 + (4+2)p + 4 \times 2$ $= p^2 + 4p + 2p + 4 \times 2$ $= p(p+4) + 2(p+4)$ $= (p+4)(p+2)$		
29	(i)	Tuesday, Friday, Sunday	2
	(ii)	35^0 C	1
	(iii)	Thursday	1
30	(i)	Rectangle	1
	(ii)	volume	1
	(iii)	905.14 cm^3	2