KENDRIYA VIDYALAYA SANGATHAN
HYDERABAD REGION
COMMON SUMMATIVE ASSESSMENT – II

CLASS: VIII **MARKS : 60**
SUBJECT: MATHEMATICS **DURATION: 2 ½ HOURS**

Instructions:

1. **All questions are compulsory.**
2. **Questions 1 to 8 carries 1 mark each.**
3. **Questions 9 to 14 carries 2 marks each.**
4. **Questions 15 to 22 carries 3 marks each.**
5. **Questions 23 to 26 carries 4 marks each.**

SECTION-A

1. A die is thrown once. The probability of getting an even number is
   (a) $\frac{1}{6}$ (b) $\frac{1}{4}$ (c) $\frac{1}{3}$ (d) $\frac{1}{2}$

2. The ratio of 10 m to 1 km is
   (a)1:10 (b) 10:1 (c) 1:100 (d) 100:1

3. The marked price of a book is ₹ 100. The shopkeeper gave 25% discount on it. Then, the sale price of the book is
   (a) ₹ 100 (b) ₹ 25 (c) ₹ 125 (d) ₹ 75

4. Number of terms in the expression 5 - 3xy has
   (a)1 (b) 2 (c) 3 (d) 4

5. 1 m^3 is equal to
   (a)1 litre (b) 10 litres (c) 100 litres (d) 1000 litres

6. $(2^0 + 4^{-1}) \times 2^2$ is equal to
   (a) 2 (b) 3 (c) 4 (d) 5

7. The common factor of $14a^2b$ and $35a^4b^2$ is
   (a)$7a^2b$ (b) $35a^4b^2$ (c) $14a^2b$ (d)a^4b^2

8. A point whose y-coordinate is zero and x-coordinate is 5 will lie on
   (a)y-axis (b)x-axis (c) origin (d) None of these

SECTION-B

9. The weekly wages (in ₹) of 25 workers in a factory are

2130, 2135, 2110, 2135, 2136, 2169, 2145, 2120, 2160, 2132
2133, 2155, 2145, 2104, 2108, 2112, 2140, 2135, 2135, 2136,
2178, 2140, 2168, 2106, 2140

Using tally marks make a frequency table with intervals as 2100-2110, 2110-2120 and so on.

10. Using Euler's formula, find the number of edges in a polyhedron if the number of faces is 20 and the number of vertices is 12.

11. Express: (i) 0.00000000837 in standard form

(ii) 3.61492×10^6 in usual form.

OR

Simplify: $\left\{\left(\frac{1}{3}\right)^{-2} - \left(\frac{1}{2}\right)^{-3}\right\} \div \left(\frac{1}{4}\right)^{-2}$

12. A machine in a soft drink factory fills 840 bottles in six hours. How many bottles will it fill in five hours?

13. Factorize: 15pq +15 +9q +25p

14. If 31z5 is a multiple of 9, where 'z' is a digit, what is the value of z?

SECTION-C

15. Draw a pie chart showing the following information. The table shows the colours preferred by a group of people.

COLOURS	NUMBER OF PEOPLE
Blue	18
Green	9
Red	6
Yellow	3
TOTAL	36

16. Find the product: (i) $(2x+5)(4x-3)$ (ii) $(t+s^2)(t^2+s)$

OR

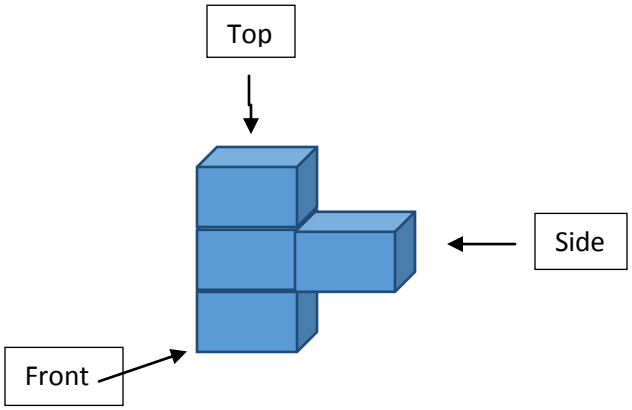
Find: (a) Add: $2x(z-x-y)$ and $2y(z-y-x)$
(b) Subtract: $3l(l-4m+5n)$ from $4l(10n-3m+2l)$

17. A road roller takes 750 complete revolutions to move over to level a road. Find the area of the road if the diameter of a road roller is 84 cm and length is 1 m.

OR

The area of a trapezium is 34 cm^2 and the length of one of the parallel sides is 10 cm and its height is 4 cm. Find the length of the other parallel side.

18. Draw a front view, side view and top view of a solid.



19. Find the value of m for which

$5^m \div 5^{-3} = 5^5$

20. If a box of sweets is divided among 24 children, they will get 5 sweets each. How many would each get, if the number of the children is reduced by 4?

21. Divide: (i) $9x^2y^2(3z - 24) \div 27xy(z - 8)$

(ii) $(y^2 + 7y + 10) \div (y + 5)$

22. Find the values of the letters A, B and C and give reasons for the steps involved.

$$\begin{array}{r} 4\,A \\ +\quad 9\,8 \\ \hline C\,B\,3 \end{array}$$

SECTION –D

23. A VCR and TV were bought for ₹ 8000 each. The shopkeeper made a loss of 4% on the VCR and a profit of 8% on the TV. Find the gain or loss percent on the whole transaction.

OR

Fabina borrows ₹ 12500 at 12% per annum for 3 years at simple interest and Radha borrows the same amount for the same period at 10 % per annum, compounded annually. Who pays more interest and by how much?

24. Using suitable identities, evaluate: (i) (2y+5) (2y+5) (ii) $153^2 - 147^2$

25. The floor of a building consists of 3000 tiles which are rhombus shaped and each of its diagonals are 45 cm and 30 cm in length. Find the total cost of polishing the floor, if the cost per m^2 is ₹ 4.

26. Draw the graph for the following table of values, with suitable scales on the axes.

Distance travelled by a car

Time (in hours)	6 a.m.	7 a.m.	8 a.m.	9 a.m.
Distance(in Km)	40	80	120	160

(i) How much distance did the car cover during the period 7.30 a.m. to 8 a.m.?

(ii) What was the time when the car had covered a distance of 100 Km since its start?

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SCORING KEY FOR COMMON SUMMATIVE ASSESSMENT – II

SESSION

CLASS: VIII **SUBJECT: MATHEMATICS**

SECTION –A

For each correct answer: 1 mark

1) D
2) C
3) D
4) B
5) D
6) D
7) A
8) B

SECTION – B

9) (8*1/4=2m)

WAGE (in Rs)	NO.OF WORKERS
2100-2110	3
2110-2120	2
2120-2130	1
2130-2140	9
2140-2150	5
2150-2160	1
2160-2170	3
2170-2180	1
TOTAL	25

10) Euler's Formula: F +V-E=2 1/2m
20+12-E=2 1/2m
E=32-2=30 1m

11)

(i) $0.00000000837=8.37 \times 10^{-9}$ 1m

(ii) $3.61492 \times 10^{6}=3614920$ 1m

Or

$/3)^{-2} - (1/2)^{-3}\} \div (1/4)^{-2} = (3^2 - 2^3) \div 4^2$

$= (9-8) \div 16$ 1/2m

$= 1/16$ 1/2m

12)

No. of bottles	840	x
Time(in hr)	6	5

DIRECT VARIATION 1/2m

840/6 =x/5 1/2m

x=700 1m

13) 15pq+25p+15+9q 1/2m

= 5p(3q+5) +3(5+3q) 1/2m

= (5p+3)(3q+5) 1m

14) Sum of the digits =3+1+z+5=9+z 1/2m

9+z is one of the multiples of 9i.e.,is 9+z is one of the nos. of 0,9,18,27, so on. 1/2m

Since z is a digit, therefore 9+z=9 or 18 1/2m

z=0 or 9 1/2m

SECTION- C

15) For finding central angles (Blue-180°, Yellow-30°,Red-60°, Green-90°) 1m

For correct Pie chart 2m

16) (i) $(2x+5)(4x-3) = 8x^2-6x+20x-15$ 1/2m

$=8x^2+14x-15$ 1m

(ii) $(t+s^2)(t^2+s) = t^3+ts+s^2t^2+s^3$ 1 ½m

Or

(i) $2x(z-x-y) + 2y(z-y-x) = 2xz-2x^2-2xy+2yz-2y^2-2xy$ 1m

$=-2x^2-2y^2-4xy+2yz+2zx$ 1/2m

(ii) For removing brackets 1/2m

For correct answer $5l^2+25ln$ 1m

17) For r=42cm=0.42m 1/2ms

For correct formula 1/2m

Area covered in one revolution=$2.64m^2$ 1m

:overed in 750 revolutions=1980 m^2 1m

Or

For correct formula 1/2m

For substitution of values 1m

For correct answer b=7cm 1 ½ m

18) For each correct view 1m

19) $5^{m-(-3)} = 5^5$ 1m

For simplification m+3=5 1m

For correct answer=m=2 1m

20) NO.OF CHILDREN 24 20

NO.OF SWEETS 5 y 1/2m

Inverse variation 1/2m

24 X 5= 20 X y 1m

For y=6 1m

21) (i) For taking 3 common 1/2m

For correct answer =xy 1m

(ii) For factorization of $y^2+7y+10$ 1m

For correct answer=y+2 1/2m

22) Sum in One's column=A + 8 =3 1/2m

A has to be 5 1/2m

(A+8=5+8=13)

Sum in ten's column=1+4+9= 14 1m

B has to be 4 1/2m

C has to be 1 1/2m

SECTION –D

23) VCR

For loss=Rs.320 1/2m

For SP=Rs.7680 1m

For Profit=Rs.640-------- 1/2m

For SP=Rs.8640---------- 1m

Profit on whole transaction=Rs. 320------- 1/2m

For gain%=2---------- 1/2m

Or

FABINA (Simple Interest case)

For correct formula of SI -------- 1/2m

For getting SI =Rs.4500------- 1m

RADHA (Compound interest case)

For correct formula of Amount----- 1/2m

For getting Amount =Rs.16637.50---------- 1m

For getting correct CI=Rs.4137.50---------- 1/2m

Fabina pays more interest by Rs.362.50--------- 1/2m

24) (i)For expansion by using identity---------- 1m

For correct answer=$4y^2+20y+25$---------- 1 m

(ii)(153+147)(153-147)---------- 1m

=300 x 6---------- 1/2m

=1800---------- 1/2m

25)Formula for area of a rhombus---------- 1/2m

Area of 1 tile =675 sq.cm---------- 1m

Area of 3000 tiles=2025000 sq.cm---------- 1m

For converting 2025000sq.cm into sq. m=202.5sq.m--------1/2m

For total cost =Rs. 810-------- 1m

26)For suitable scales---------- 1m

For graph---------- 2m

(i) 20km---------- 1/2m

(ii)7.30a.m.---------- 1/2m

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