KENDRIYA VIDYALAYA AFS BAGDOGRA

HALF YEARLY EXAM (2018-19)

Subject: -Mathematics Class:-VII

8/10/18

Time:- $2\frac{1}{2}$ hrs Max.marks:-80

General Instructions:

(i) All questions are compulsory.

(ii) This question paper contains 32 questions divided into four Sections A, B, C and D.

(iii) **Section A** comprises of 8 questions of 1 mark each. **Section B** comprises of 10 questions of 2 marks each. **Section C** comprises of 9 questions of 3 marks each and **Section D** comprises of 5 questions of 5 marks each.

(iv) Use of Calculators is not permitted.

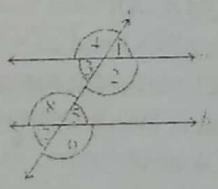
Section A

1×8=8

1. Write down a pair of integers whose difference is (−10).
2. Find: 11.2×0.15
3. Write equations for the statement:
   If you take away 6 from 6 times y, you get 60.
4. Can two angles be supplementary if both of them are: (1) acute? (2) obtuse?
5. Is there a triangle whose sides have lengths 10.2 cm, 5.8 cm and 4.5 cm?
6. If ΔDEF ≅ΔBCA, write the part of ΔBCA that correspond to $\overline{DF}$.
7. Find the ratio of 30 days to 36 hours.
8. Convert the ratio 3:1 to percentage.

Section B

9. Verify that a ÷ (b + c) ≠ (a ÷ b) + (a ÷ c) for values of a=(-10), b=1, c=1.
10. Arrange in descending order: $\frac{2}{9}, \frac{2}{3}, \frac{8}{21}$.
11. A cricketer scores the following runs in eight innings:
    58, 76, 40, 35. 46, 45, 0, 100.
    Find the mean score.
12. Set up equations and solve them to find the unknown number:
    "Anwar thinks of a number. If he takes away 7 from $\frac{5}{2}$ of the number, the result is 23."
13. In the adjoining figure, identify
    (i) the pairs of corresponding angles.
    (ii) the pairs of alternate interior angles.
    (iii) the pairs of interior angles on the same side of the transversal.
    (iv) the vertically opposite angles.



14. The diagonals of a rhombus measure 16 cm and 30 cm. Find its perimeter.
15. The lengths of two sides of a triangle are 12 cm and 15 cm. Between what two measures should the length of the third side fall?
16. State "**ASA Congruence criterion**".
17. Find the whole quantity if40% of it is 500 km.
18. The population of a city decreased from 25,000 to 24,500. Find the percentage decrease.

Section C

19. In a class test (+ 3) marks are given for every correct answer and (–2) marks are given for every incorrect answer and no marks for not attempting any question.
    Radhika scored 20 marks. If she has got 12 correct answers, how many questions has she attempted incorrectly?

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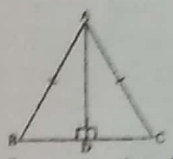
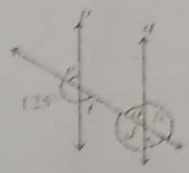
20. Lipika reads a book for $1\frac{3}{4}$ hours everyday. She reads the entire book in 6 days. How many hours in all were required by her to read the book?
21. The runs scored in a cricket match by 11 players is as follows:
    6, 15, 120, 50, 100, 80, 10, 15, 8, 10, 15
    Find the mean, mode and median of this data. Are the three same?
22. Laxmi's father is 49 years old. He is 4 years older than three times Laxmi's age. What is Laxmi's age?
23. A tree is broken at a height of 5 m from the ground and its top touches the ground at a distance of 12 m from the base of the tree. Find the originalheight of the tree.
24. ABC is an isosceles triangle with AB = AC and D is the mid-point of BC.
    (i) State the three pairs of equal parts in ΔADB and ΔADC.
    (ii) Is ΔADB ≅ΔADC? Why or why not?
    (i) Is ∠B = ∠C? Why or why not?

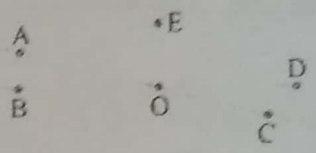


25. Out of 15,000 voters in a constituency, 60% voted. Find the percentage of voters who did not vote. Can you now find how many actually did not vote?
26. Juhi sells a washing machine for ₹13,500. She loses 20% in the bargain. What was the price at which she bought it?
27. In the adjoining figure, p ∥ q. Find the unknown angles.



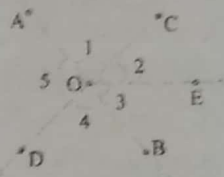
Section D

28. In the adjoining figure, name the following pairs of angles.
    (i) Obtuse vertically opposite angles
    (ii) Adjacent complementary angles
    (iii) Equal supplementary angles
    (iv) Unequal supplementary angles
    (v) Adjacent angles that do not form a linear pair



OR,

In the adjoining figure:
(i) Is ∠1 adjacent to ∠2?
(ii) Is ∠AOC adjacent to ∠AOE?
(iii) Are ∠BOD and ∠DOA supplementary?
(iv) Is ∠1 vertically opposite to ∠4?
(v) What is the vertically opposite angle of ∠5?



29. ABCD is quadrilateral. Is AB + BC + CD + DA < 2 (AC + BD)?
30. Population of Rajasthan=570lakhs and population of UP=1660lakhs. Area of Rajasthan=3lakh km^2 and area of UP=2lakh km^2.
    (i) How many people are there per km^2 in both these States?
    (ii) Which State is less populated?
31. If Meena gives an interest of ₹45 for one year at 9% rate p.a.. What is the sum she has borrowed?
32. In ΔABC, ∠A = 30°, ∠B = 40° and ∠C = 110°
    In ΔPQR, ∠P = 30°, ∠Q = 40° and ∠R = 110°
    A student says that ΔABC ≅ΔPQR by AAA congruence criterion. Is he justified? Why or why not?

OR,

Explain, whyΔABC ≅ΔFED.