

**ATOMIC ENERGY EDUCATION SOCIETY
HALF-YEARLY EXAMINATION (2018-19)**

Class: VII
Subject: Mathematics

Date of Exam: 03-10-2018

Marks: 80
Duration: 3 Hrs.

General Instructions:

The questions paper consists of 30 questions divided into four sections A, B, C and D.

- 1) Section A comprises 6 questions of 1 mark each.
- 2) Section B comprises 6 questions of 2 marks each.
- 3) Section C comprises 10 questions of 3 marks each.
- 4) Section D comprises 8 questions of 4 marks each.

All questions are compulsory.

SECTION-A (6 MARKS)

(6 x 1 M=6 MARKS)

1. Subtract (-25) from (-73).
2. Find $\frac{2}{7}$ of $12\frac{3}{4}$
3. Find the mode of the data: 3, 4, 3, 5, 6, 3, 7, 8, 3, 6, 7
4. Find the angle which is equal to its complement.
5. One of the acute angles of a right triangle is 40° . Find the other acute angle.
6. The cost of 1 metre of cloth is Rs 35.20. Find the cost of 10 metres of cloth.

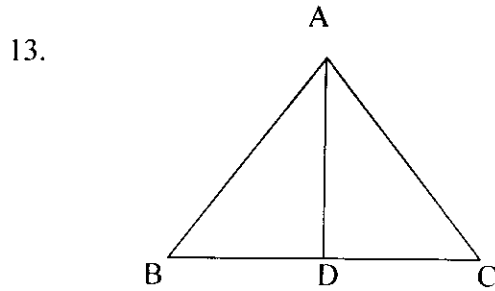
SECTION-B

(6 x 2 M=12 MARKS)

7. Write down a pair of integers whose
 - a) Difference is (-12)
 - b) sum is 0
8. Which is greater?
 $\frac{2}{7}$ of $\frac{3}{4}$ or $\frac{3}{5}$ of $\frac{5}{8}$
9. Find the median of the data: 24,36,46,17,18,25,35
10. Convert the following equations in statement form:
 - (a) $x-5=9$
 - (b) $3x+7=1$
11. Two supplementary angles are in the ratio of 2:7, find the angles.
12. An exterior angle of a triangle is of measure 70° and one of its interior opposite angles is of measure 25° . Find the measure of the other interior opposite angle.

SECTION-C (30 MARKS)

(10 x 3 M=30 MARKS)



ABC is an isosceles triangle with $AB = AC$ and AD is its altitudes

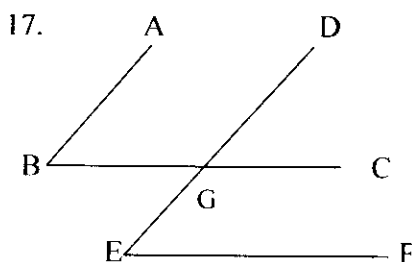
(i) State the three pairs of equal parts in $\triangle ADB$ and $\triangle ADC$.

(ii) Is $\triangle ADB$ congruent to $\triangle ADC$?

14. A tree is broken at a height of 5m from the ground and its top touches the ground at a distance of 12m from the base of the tree .Find the original height of the tree.

15. Determine whether the triangle whose lengths of sides 3cm, 4cm and 5cm is a right angled triangle.

16. The lengths of two sides of a triangle are 6cm and 8cm. Between which two numbers can length of the third side fall?



In the given figure, the arms of two angles are parallel. If $\angle ABC = 70^\circ$, then find

a) $\angle DGB$

b) $\angle DEF$

18. Verify $(-30) [(-3) + (16)] = [(-30) \times (-3)] + [(-30) \times (16)]$

19. An elevator descends into a mine shaft at the rate of 6m/min .If the descent starts from 10m above the ground level, how long will it take to reach (-350)m.

20. Saili plants 4 saplings, in a row, in her garden. The distance between two adjacent saplings is $\frac{3}{4}$ m.Find the distance between the first and the last sapling.

21. There are 6 marbles in a box with numbers from 1 to 6 marked on each of them.

a) What is the probability of drawing a marble with number 2?

b) What is the probability of drawing a marble with an even number?

c) What is the probability of drawing a marble with number 5?

22. Find a number, such that One-fourth of the number is 3 more than 7.

SECTION-D (32 MARKS)

(8 x 4 M=32 MARKS)

23. A cement company earns a profit of Rs 8 per bag of white cement sold and a loss of Rs 5 per bag of gray cement sold.
- a) The company sells 3000 bags of white cement and 5000 bags of gray cement in a month, what is its profit or loss?
 - b) What is the number of white cement bags it must sell to have neither profit nor loss, if the number of gray bags sold is 6400 bags.
24. a) Find the average of 4.2, 3.8 and 7.6
- b) A car covers a distance of 89.1 km in 2.2 hours. What is the average distance covered by it in 1 hour?
25. Sale of English and Hindi books in the year 1995, 1996, 1997 and 1998 are given below:

years	1995	1996	1997	1998
English	350	400	450	620
Hindi	500	525	600	650

Draw a double bar graph.

26. Solve the following equations:

a) $16 = 4 + 3(x + 2)$ b) $4(4 - x) = 8$

27. Among two supplementary angles the measure of the larger angle is 44° more than the measure of the smaller. Find their measure.
28. The diagonals of a rhombus measure 16 cm and 30 cm. Find its perimeter.
29. The length of each of two equal sides of an isosceles triangle is 4 cm less than twice the length of the third side. Find the dimensions of the triangle if its perimeter is 57 cm.
30. If ΔABC and ΔDEF are congruent under the correspondence $ABC \leftrightarrow FED$. Write all the corresponding congruent parts of the triangles.
