CBSE Sample Paper Class 7 Maths Half Yearly Set 1

SUBJECT: MATHEMATICS CLASS : VII **MAX. MARKS : 80**
DURATION : 3 HRS

General Instructions:

(i). **All** questions are compulsory.
(ii). This question paper contains 4**0** questions divided into four Sections A, B, C and D.
(iii). **Section A** comprises of 20 questions of **1 mark** each. **Section B** comprises of 6 questions of **2 marks** each. **Section C** comprises of 8 questions of **3 marks** each and **Section D** comprises of 6 questions of **4 marks** each.
(iv). There is no overall choice. However, an internal choice has been provided in two questions of 2 marks each, two questions of 3 marks each and two questions of 4 marks each. You have to attempt only one of the alternatives in all such questions.
(v). Use of Calculators is not permitted

SECTION – A

Questions 1 to 20 carry 1 mark each.

1. The hypotenuse of a right triangle is 17 cm long. If one of the remaining two sides is 8 cm in length, then the length of the other side is
(a) 15 cm (b) 12 cm (c) 13 cm (d) none of these.

2. In triangles ABC and PQR, $\angle B = 90°$, AC = 8 cm, AB = 3 cm, $\angle P = 90°$, PR = 3 cm, QR = 8 cm By which congruence rule the triangles are congruent ?
(a) SAS (b) RHS (c) ASS (d) none of these

3. A school team won 6 games this year against 4 games won last year. What is the per cent increase?
(a) 75% (b) 50% (c) 60% (d) none of these

4. The number of illiterate persons in a country decreased from 150 lakhs to 100 lakhs in 10 years. What is the percentage of decrease?
(a) 30% (b) 50% (c) 33 % (d) none of these

5. Find the angle, which is equal to its complement.
(a) 30^o (b) 25^o (c) 35^o (d) 45^o

6. If two adjacent angles are supplementary, then they form _____ .
(a) Corresponding angles (b) vertically opposite angles
(c) a linear pair of angles (d) a ray

7. Write the statements “One third of a number plus 5 is 8” in the form of equations:
(a) 3m + 5 = 8 (b) m + 5 = 8 (c) $\frac{1}{3}$m + 5 = 8 (d) $\frac{1}{3}$m + 8 = 5

8. The mean of the first seven natural number is _____ .
(a) 2 (b) 5 (c) 3 (d) 4

9. The value of 1.3 x 3.1 is
(a) 403 (b) 0.403 (c) 4.03 (d) 0.0403

10. – 6 ÷(– 3) gives
(a) – 9 (b) 2 (c) – 2 (d) 3

11. Solve: $3n + 7 = 25$

12. Evaluate: $(-31) \div [(-30) + (-1)]$

13. Express 7 rupees 7 paise as rupees using decimals.

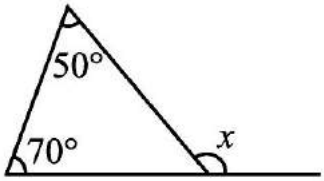
14. Find the value of $0.5 \div 1000$

15. A school team won 6 games this year against 4 games won last year. What is the percent increase?

16. Find the angle which is equal to its supplement.

17. What is the side included between the angles M and N of ΔMNP?

18. Find the value of the unknown exterior angle x in the below diagrams:



19. Find the ratio of 9 m to 27 cm

20. Ashish studies for 4 hours, 5 hours and 3 hours respectively on three consecutive days. How many hours does he study daily on an average?

SECTION – B

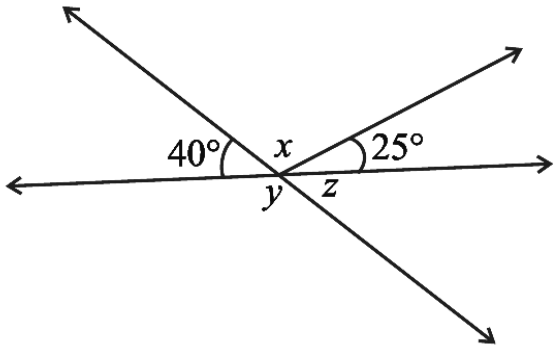
Questions 21 to 26 carry 2 marks each.

21. The temperature at 12 noon was 10°C above zero. If it decreases at the rate of 2°C per hour until midnight, at what time would the temperature be 8°C below zero? What would be the temperature at mid-night?

OR

Evaluate each of the following:
(a) $[(-36) \div 12] \div 3$ (b) $[(-6) + 5)] \div [(-2) + 1]$

22. Find the values of the angles *x*, *y*, and *z* in the given figure:



23. If ΔDEF ≅ ΔBCA, write the part(s) of ΔBCA that correspond to (i) ∠E (ii) EF (iii) ∠F (iv) DF

24. PQR is a triangle right angled at P. If PQ = 10 cm and PR = 24 cm, find QR.

25. The length of a rectangle is 7.1 cm and its breadth is 2.5 cm. What is the area of the rectangle?

26. Solve the following equations.
(a) $10 = 4 + 3(t + 2)$ (b) $28 = 4 + 3(t + 5)$

OR

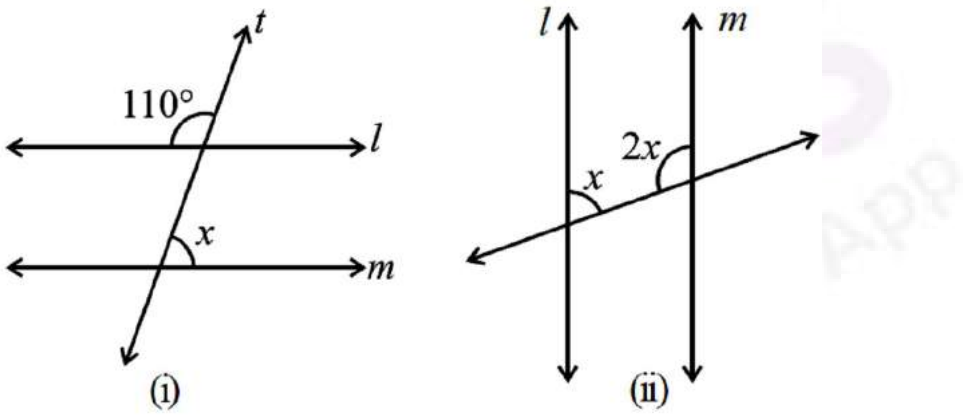
The sum of three times a number and 11 is 32. Find the number.

SECTION – C

Questions 27 to 34 carry 3 marks each.

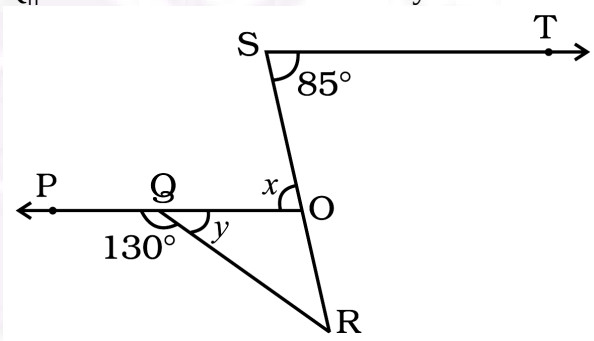
27. The marks (out of 100) obtained by a group of students in a science test are 85, 76, 90, 85, 39, 48, 56, 95, 81 and 75. Find the:
(i) Range of the marks obtained.
(ii) Mean marks obtained by the group.
(iii)What you will do to get good marks?

28. Find the value of x in each of the following figures if $l \parallel m$.



OR

In the below figure, if PQ||ST then find the value of x + y.



29. If Meena gives an interest of Rs 45 for one year at 9% rate p.a.. What is the sum she has borrowed?

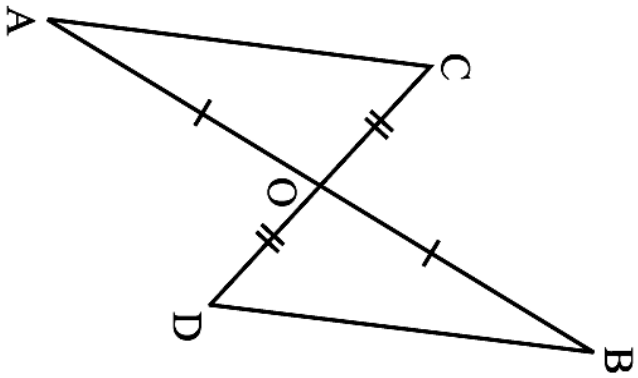
30. Solve (a) $4 (m + 3) = 18$ (b) $– 2(x + 3) = 5$

31. Sushant reads $\frac{1}{3}$ part of a book in 1 hour. How much part of the book will he read in $2\frac{1}{5}$ hours?

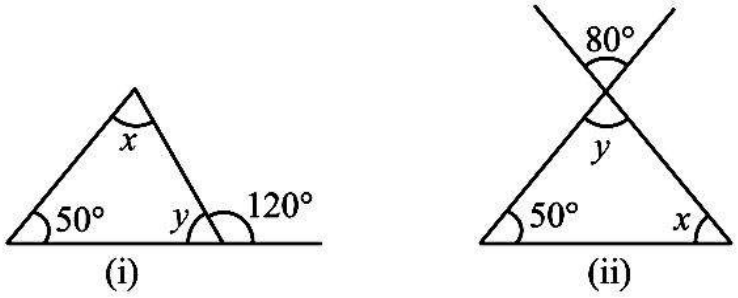
OR

Find: (i) $36 \div 0.2$ (ii) $3.25 \div 0.5$ (iii) $30.94 \div 0.7$

32. In the below figure, AB and CD bisect each other at O. Prove that (ii) $\Delta AOC \cong \Delta BOD$ (ii) AC = BD



33. Find the values of the unknowns *x* and *y* in the following diagrams:



34. The foot of a ladder is 6 m away from its wall and its top reaches a window 8 m above the ground, (a) Find the length of the ladder. (b) If the ladder is shifted in such a way that its foot is 8 m away from the wall, to what height does its top reach?

OR

Two poles of 10 m and 15 m stand upright on a plane ground. If the distance between the tops is 13 m, find the distance between their feet.

SECTION – D

Questions 35 to 40 carry 4 marks each.

35. A certain sum of money was lent under the following repayment scheme based on Simple Interest:
8% per annum for the initial 2 years
9.5% per annum for the next 4 years
11% per annum for the next 2 years
12% per annum after the first 8 years
Find the amount which a sum of ` 9000 taken for 12 years becomes at the end of 12 years.

OR

A shopkeeper earns a profit of Re 1 by selling one pen and incurs a loss of 40 paise per pencil while selling pencils of her old stock. (i) In a particular month she incurs a loss of Rs 5. In this period, she sold 45 pens. How many pencils did she sell in this period? (ii) In the next month she earns neither profit nor loss. If she sold 70 pens, how many pencils did she sell?

36. The length of a rectangle is two times its width. The perimeter of the rectangle is 180 cm. Find the dimensions of the rectangle and also find its area.

OR

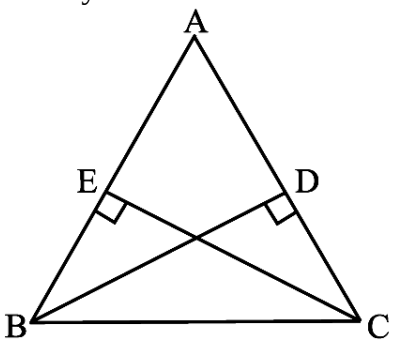
In a certain examination, a total of 3768 students secured first division in the years 2006 and 2007. The number of first division in 2007 exceeded those in 2006 by 34. How many students got first division in 2006?

37. In the below figure, BD and CE are altitudes of ΔABC such that BD = CE.

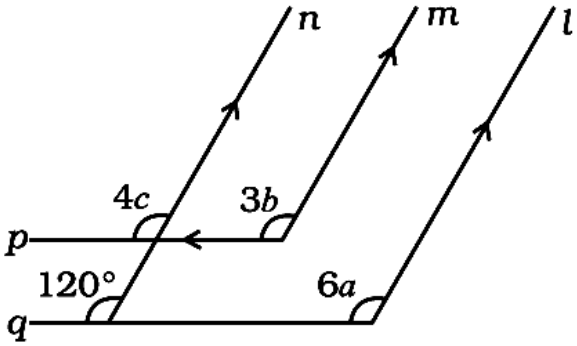
(i) State the three pairs of equal parts in ΔCBD and ΔBCE.

(ii) Is ΔCBD ≅ ΔBCE? Why or why not?

(iii) Is ∠DCB = ∠EBC? Why or why not?



38. In the below figure, l, m and n are parallel lines, and the lines p and q are also parallel. Find the values of a, b and c.



39. Sana and Fatima participated in an apple race. The race was conducted in 6 parts. In the first part, Sana won by 10 seconds. In the second part she lost by 1 minute, then won by 20 seconds in the third part and lost by 25 seconds in the fourth part, she lost by 37 seconds in the fifth part and won by 12 seconds in the last part. Who won the race finally?

40. The students of Class VII have to choose one club from Music, Dance, Yoga, Dramatics, Fine arts and Electronics clubs. The data given below shows the choices made by girls and boys of the class. Study the table and answer the questions that follow:

Clubs	Girls	Boys
Music	15	12
Dance	24	16
Yoga	10	8
Dramatics	19	17
Fine Arts	27	11
Electronics	21	30

(a) Draw a double bar graph using appropriate scale to depict the above data.

(b) How many students are there in Class VII?

(c) For which club the difference between boys and girls is the least?

(d) For which club is the difference between boys and girls the maximum?