# CBSE Board
# Class VII Mathematics
# Term I
# Sample Paper 4

Time: 2 ½ hours Total Marks: 80

**General Instructions:**

1. **All** questions are **compulsory**.
2. **Section A** comprises of **12** questions carrying 1 mark each.
3. **Section B** comprises of **12** questions carrying 2 marks each.
4. **Section C** comprises of **8** questions carrying 3 marks each.
5. **Section D** comprises of **5** questions carrying 4 marks each.

## Section A
### (Questions 1 to 12 carry 1 mark each)

1. When two positive integers are added we get a _____ integer.
   A. Positive
   B. Negative
   C. Either positive or negative
   D. None of above

2. A _____ is a fraction that represents a part of a whole.
   A. improper fraction
   B. proper fraction
   C. mixed fraction
   D. None of above

3. On a number line when we add a positive integer….
   A. we move to the left
   B. we move to the right
   C. we move to the origin
   D. we move away from origin

4. An _____ is a combination of whole and a proper fraction.
   A. improper fraction
   B. proper fraction
   C. mixed fraction
   D. None of above

5. Two vessels contain 20 litres and 60 litres of milk respectively. What is the amount that each vessel would have, if both share the milk equally?
   A. 50
   B. 40
   C. 30
   D. 20

6. A _____ takes on different numerical values; its value is not fixed.
   A. Constant
   B. Variable
   C. Alphabets
   D. None of above

7. A batsman scored the following number of runs in six innings: 36, 35, 50, 46, 60, 55 Calculate the mean runs scored by him in an inning.
   A. 45
   B. 46
   C. 47
   D. 48

8. An _____ is a condition on a variable. The condition is that two expressions should have equal value.
   A. expression
   B. Identity
   C. equation
   D. None

9. When the sum of the measures of two angles is 90°, the angles are called….
   A. Right angles
   B. Adjacent angles
   C. Supplementary angles
   D. Complementary angles

10. A _____ connects a vertex of a triangle to the mid-point of the opposite side.
   A. altitude
   B. median
   C. angle bisector
   D. perpendicular bisector

11. which of the following are not test of congruency
    A. SSS
    B. AAS
    C. SAS
    D. AAA

12. Find the ratio of 3 km to 300 m.
    A. 10 : 1
    B. 1 : 10
    C. 1 : 100
    D. 100 : 1

## Section B

**(Questions 13 to 24 carry 2 marks each)**

13. Use the sign of >, < or = in the box to make the statements true.

| | | |
|---|---|---|
| $(a)(-8)+(-4)$ | $\square$ | $(-8)-(-4)$ |
| $(b)(-3)+7-(19)$ | $\square$ | $15-8+(-9)$ |
| $(c)23-41+11$ | $\square$ | $23-41-11$ |
| $(d)39+(-24)-(15)$ | $\square$ | $36+(-52)-(-36)$ |
| $(e)-231+79+51$ | $\square$ | $-399+159+18$ |

14. In a quiz, team A scored – 40, 10, 0 and team B scored 10, 0 – 40 in three successive rounds. Which team scored more? Can we say that we can add integers in any order?

15. Solve:

(i) $2-\frac{3}{5}$ (ii) $4+\frac{7}{8}$

16. Multiply and reduce to lowest form:

(i) $7\times\frac{3}{5}$ (ii) $4\times\frac{1}{3}$

17. 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) Highest and the lowest marks obtained by the students.

    (ii) Range of the marks obtained.

    (iii) Mean marks obtained by the group.

18. The scores in mathematics test (out of 25) of 15 students is as follows:

    19, 25, 23, 20, 9, 20, 15, 10, 5, 16, 25, 20, 24, 12, 20

    Find the mode and median of this data. Are they same?

19. Solve the following equations by trial and error method:

    (i) $5p + 2 = 17$ (ii) $3m - 14 = 4$

20. Solve the following equations

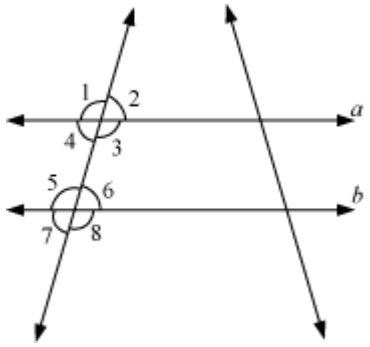
    (i) $2q - 6 = 0$ (ii) $2q + 6 = 0$

21. State the property that is used in each of the following statements?

    (i) If $a \parallel b$, then $\angle 1 = \angle 5$

    (ii) If $\angle 4 = \angle 6$, then $a \parallel b$

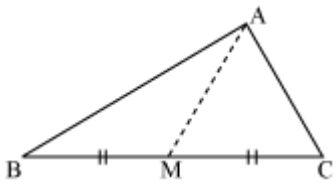
    (iii) If $\angle 4 + \angle 5 = 180°$, then $a \parallel b$



22. AM is a median of a triangle ABC.

    Is AB + BC + CA > 2 AM?

    (Consider the sides of triangles ΔABM and ΔAMC.)




23. 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?

24. 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?

## Section C

**(Questions 25 to 32 carry 3 marks each)**

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

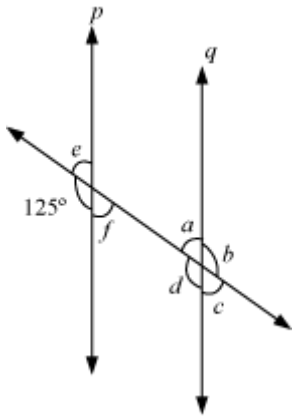
26. A vehicle covers a distance of 43.2 km in 2.4 litres of petrol. How much distance will it cover in one litre of petrol?

27. A coin is flipped to decide which team starts the game. What is the probability that your team will start?

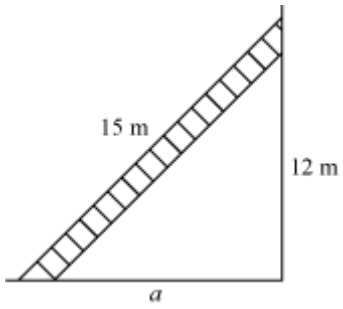
28. Solve the following:

    The teacher tells the class that the highest marks obtained by a student in her class is twice the lowest marks plus 7. The highest score is 87. What is the lowest score?

29. In the adjoining figure, $p \parallel q$. Find the unknown angles.




30. A 15 m long ladder reached a window 12 m high from the ground on placing it against a wall at a distance $a$. Find the distance of the foot of the ladder from the wall.




31. In $\Delta ABC$, $\angle A = 30°$, $\angle B = 40°$ and $\angle C = 110°$

    In $\Delta PQR$, $\angle P = 30°$, $\angle Q = 40°$ and $\angle R = 110°$

    A student says that $\Delta ABC \cong \Delta PQR$ by AAA congruence criterion. Is he justified? Why or why not?

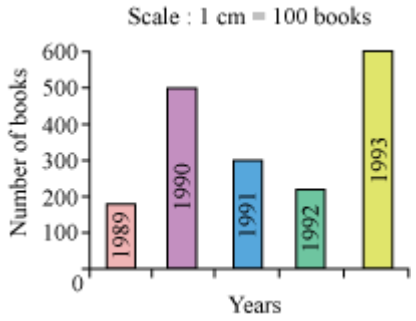
32. What rate gives Rs 280 as interest on a sum of Rs 56,000 in 2 years?

SECTION D

**(Questions 33 to 37 carry 4 marks each)**

33. Read the bar graph (see the given figure) and answer the questions that follow:

Number of books sold by a bookstore during five consecutive years.



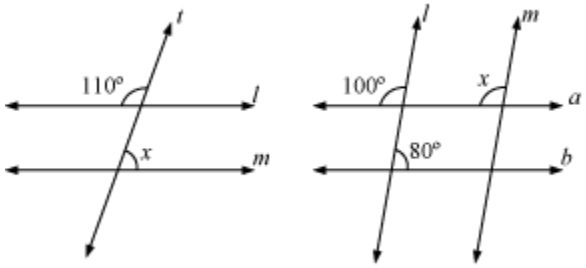

(i) About how many books were sold in 1989? 1990? 1992?

(ii) In which year were about 475 books sold? About 225 books sold?

(iii) In which years were fewer than 250 books sold?

(iv) Can you explain how you would estimate the number of books sold in 1989?

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

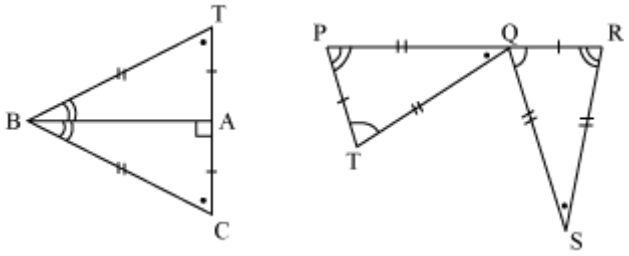



35. Find the perimeter of the rectangle whose length is 40 cm and a diagonal is 41 cm.

36. Complete the congruence statement:

$\Delta BCA \cong ?$

$\Delta QRS \cong ?$




37. Find the amount to be paid at the end of 3 years in each case:

(a) Principal = Rs 1,200 at 12% p.a.

(b) Principal = Rs 7,500 at 5% p.a.