

# **CBSE Sample Paper Class 7 Maths Half Yearly Set 2**

**SUBJECT: MATHEMATICS CLASS : VII**

**MAX. MARKS : 80**

**DURATION : 3 HRS**

## **General Instructions:**

- (i). All questions are compulsory.
- (ii). This question paper contains 40 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.**

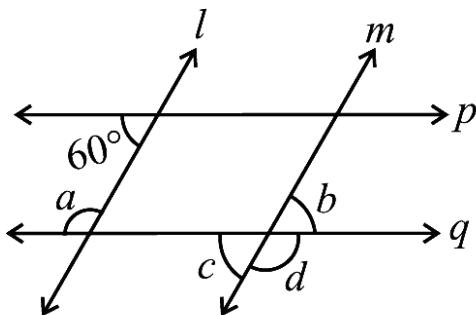
1. The acute angles of right triangle are in the ratio 2 : 1. Find the measure of each of these angles.  
(a)  $55^0$  and  $35^0$     (b)  $60^0$  and  $30^0$     (c)  $50^0$  and  $40^0$     (d)  $45^0$  and  $45^0$
2. If ABC and DEF are congruent triangles such that  $\angle A = 470$  and  $\angle E = 830$ , then  $\angle C =$   
(a)  $50^0$     (b)  $60^0$     (c)  $70^0$     (d)  $80^0$
3. Find the ratio of 50 paise to Rs 5  
(a)  $10 : 1$     (b)  $1 : 10$     (c)  $1 : 5$     (d) none of these
4. 72% of 25 students are good in hindi, how many are not good in hindi?  
(a) 16    (b) 14    (c) 18    (d) 7
5. The difference in the measures of two complementary angles is  $12^0$ . Find the measures of the angles.  
(a)  $51^0$  and  $49^0$     (b)  $51^0$  and  $39^0$     (c)  $60^0$  and  $30^0$     (d)  $50^0$  and  $40^0$
6. If two angles are supplementary then the sum of their measures is \_\_\_\_\_.  
(a)  $90^0$     (b)  $180^0$     (c)  $360^0$     (d)  $45^0$
7. Which is a solution of the equation  $x + 4 = 6$   
(a)  $x = 2$     (b)  $x = 3$     (c)  $x = 4$     (d)  $x = 6$
8. The mean of the first five whole number is \_\_\_\_\_.  
(a) 2    (b) 5    (c) 3    (d) 4
9. The value of  $26.3 \div 1000$  is  
(a) 0.0263    (b) 0.2630    (c) 26300    (d) 26.300
10.  $-8 \times 10 \times 9$  is equal to  
(a) 27    (b)  $-27$     (c)  $-720$     (d) 720
11. Find the value of  $(-3) \times (-6) \times (-2) \times (-1)$
12. Find the mean of the first five whole numbers.

13. Find the average of 4.2, 3.8 and 7.6
14. Express 4 kg 8 g in kg.
15. Which angle is included between the sides DE and EF of  $\triangle DEF$ ?
16. Write the angle opposite to the side LM of  $\triangle LMN$ .
17. The difference in the measures of two complementary angles is  $12^\circ$ . Find the measures of the angles.
18. Solve:  $8y = 36$
19. Write  $\frac{1}{3}$  as per cent.
20. Find the ratio of 30 days to 36 hours.

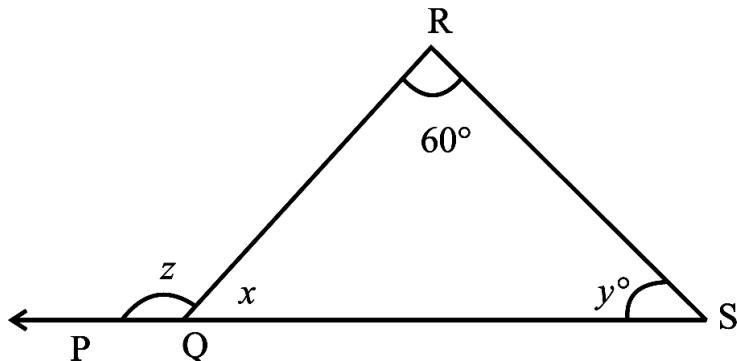
### **SECTION – B**

**Questions 21 to 26 carry 2 marks each.**

21. Find the values of the angles  $a$ ,  $b$ ,  $c$  and  $d$  in the given figure lines  $l \parallel m$ ,  $p \parallel q$ :



22. In the below figure, if  $y$  is five times  $x$ , find the value of  $z$ .



23. Harmeet purchased 3.5kg of potatoes at the rate of Rs.13.75 per kg. How much money should she pay in nearest rupees?
24. Find a number, such that one fourth of the number is 3 more than 7.  
**OR**  
Find a number, such that when I subtracted 11 from twice a number, the result was 15.
25. If  $\triangle ABC \cong \triangle PQR$  under the correspondence  $ABC \leftrightarrow RQP$ , write all the corresponding congruent parts of the triangles.

26. Find: (a)  $125 \div (-25)$  (b)  $80 \div (-5)$

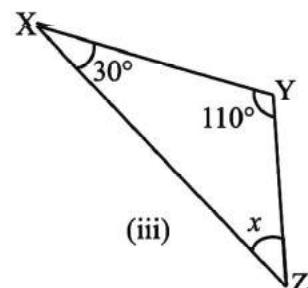
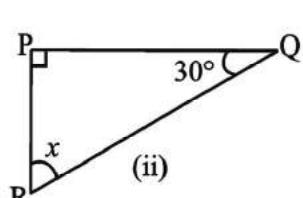
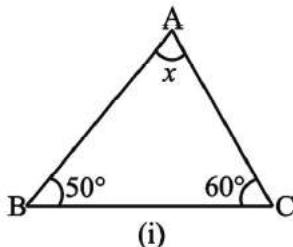
**OR**

Write two integers which are smaller than  $-5$  but their difference is  $-5$ .

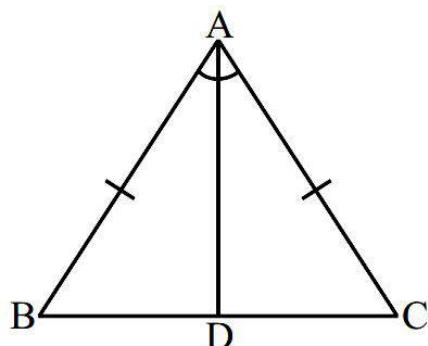
### **SECTION – C**

**Questions 27 to 34 carry 3 marks each.**

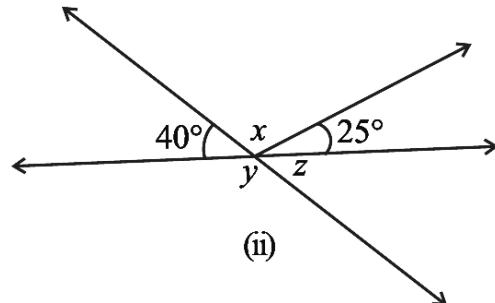
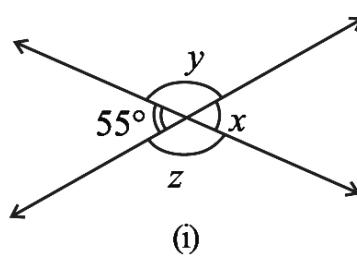
27. Find the value of  $x$  in the following figures:



28. In the below figure,  $AB = AC$  and  $AD$  is the bisector of  $\angle BAC$ . Prove that (i)  $\triangle ADB \cong \triangle ADC$   
(ii)  $\angle B = \angle C$



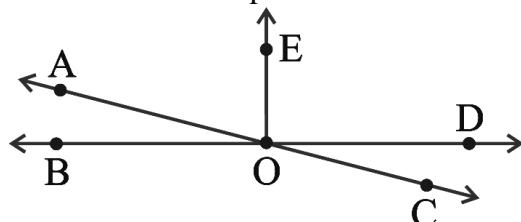
29. Find the values of the angles  $x$ ,  $y$ , and  $z$  in each of the following:



**OR**

In the adjoining figure, name the following pairs of angles.

- (i) Obtuse vertically opposite angles
- (ii) Adjacent complementary angles
- (iii) Adjacent angles that do not form a linear pair



30. Raju's father's age is 5 years more than three times Raju's age. Find Raju's age, if his father is 44 years old.

**31.** The ages in years of 10 teachers of a school are:

32, 41, 28, 54, 35, 26, 23, 33, 38, 40

(i) What is the age of the oldest teacher and that of the youngest teacher?

(ii) What is the range of the ages of the teachers?

(iii) What is the mean age of these teachers?

**32.** Juhi sells a washing machine for Rs 13,500. She loses 20% in the bargain. What was the price at which she bought it?

**33.** 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.

**34.** 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.

**OR**

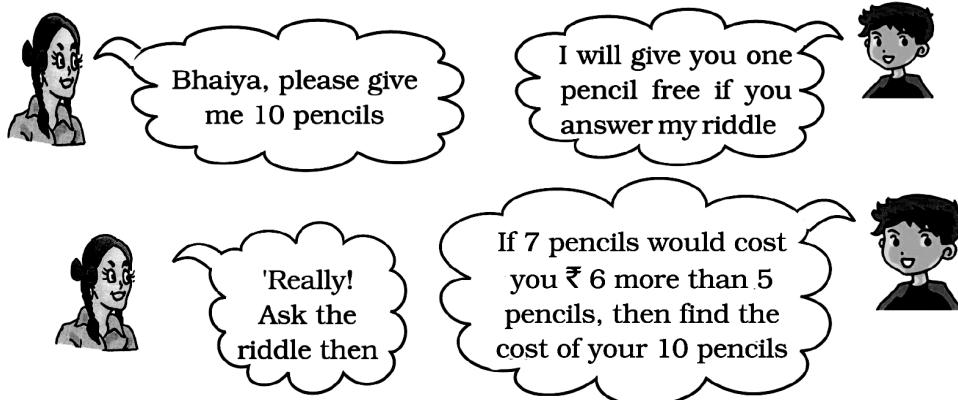
In the morning, a milkman filled  $5\frac{1}{2}$  L of milk in his can. He sold to Renu, Kamla and Renuka

$\frac{3}{4}$  L each; to Shadma he sold  $\frac{7}{8}$  L; and to Jassi he gave  $1\frac{1}{2}$  L. How much milk is left in the can?

### **SECTION – D**

**Questions 35 to 40 carry 4 marks each.**

**35.** Look at the below figure, read the conversation between brother and sister. If she answers the riddle correctly how ever will she pay for the pencils?



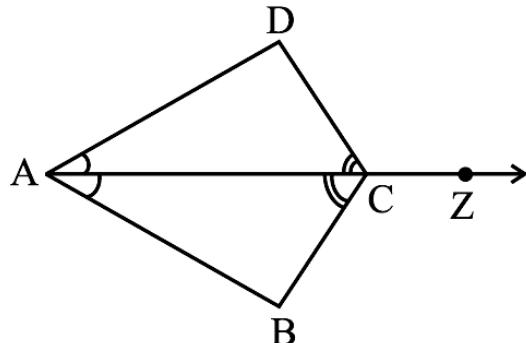
**36.** In the below figure, ray AZ bisects  $\angle DAB$  as well as  $\angle DCB$ .

(i) State the three pairs of equal parts in triangles BAC and DAC.

(ii) Is  $\Delta BAC \cong \Delta DAC$ ? Give reasons.

(iii) Is AB = AD? Justify your answer.

(iv) Is CD = CB? Give reasons.



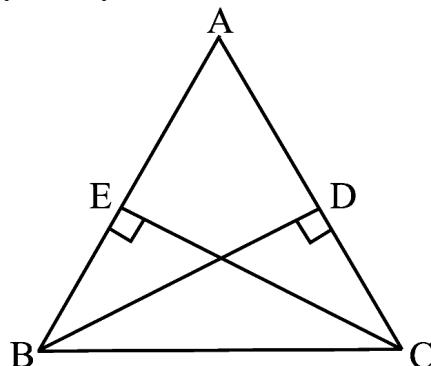
**OR**

In the below figure, BD and CE are altitudes of  $\triangle ABC$  such that  $BD = CE$ .

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

(ii) Is  $\triangle CBD \cong \triangle BCE$ ? Why or why not?

(iii) Is  $\angle DCB = \angle EBC$ ? Why or why not?



- 37.** Three persons Amar, Akbar and Anthony invested different amounts in a fixed deposit scheme for one year at the rate of 12% per annum and earned a total interest of ` 3,240 at the end of the year. If the amount invested by Akbar is ` 5000 more than the amount invested by Amar and the amount invested by Anthony is ` 2000 more than the amount invested by Akbar, what is the amount invested by Akbar?

**OR**

A certain sum of money was lent under the following repayment scheme based on Simple Interest:

8% per annum for the initial 2 years

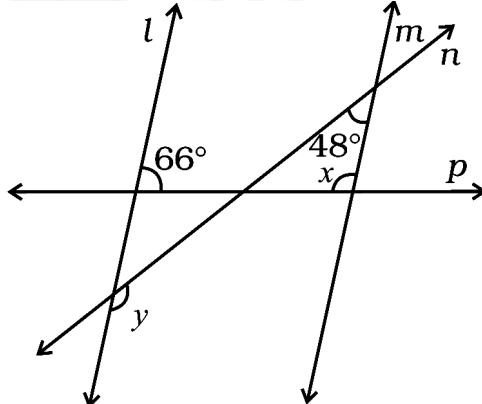
9.5% per annum for the next 4 years

11% per annum for the next 2 years

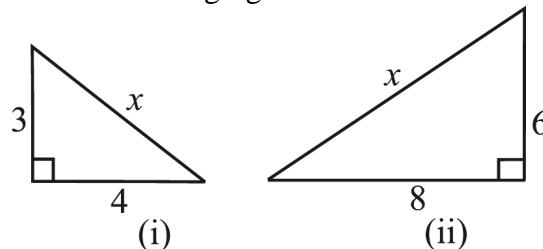
12% per annum after the first 8 years

If a person repaid ` 22,500 after 10 years of borrowing a loan, at 10% per annum simple interest find out what amount did he take as a loan?

- 38.** In the below figure, two parallel lines  $l$  and  $m$  are cut by two transversals  $n$  and  $p$ . Find the values of  $x$  and  $y$ .



- 39.** Find the unknown length  $x$  in the following figures



- 40.** The data given below shows the production of motor bikes in a factory for some months of two consecutive years.

<b>Months</b>	<b>2008</b>	<b>2007</b>
<b>Feb</b>	2700	2800
<b>May</b>	3200	4500
<b>August</b>	6000	4800
<b>October</b>	5000	4800
<b>December</b>	4200	5200

Study the table given above and answer the following questions:

- (a) Draw a double bar graph using appropriate scale to depict the above information and compare them.
- (b) In which year was the total output the maximum?
- (c) Find the mean production for the year 2007.
- (d) For which month was the difference between the production for the two years the maximum?