Class – 6
Practice Set – 1

1. Match the following.

Measure of the angle   Type of angle

(1) 180°   (a) Zero angle

(2) 240°   (b) Straight angle

(3) 360°   (c) Reflex angle

(4) 0°   (d) Complete angle

2. The measures of some angles are given below. Write the type of each angle.

(1) 75°   (2) 0°

(3) 215° (4) 360°

(5) 180° (6) 120°

(7) 148° (8) 90°

3. Use a protractor to draw an acute angle, a right angle and an obtuse angle.

4. Use the proper geometrical instruments to construct the following angles. Use the compass and the ruler to bisect them.

(1) 50° (2) 115° (3) 80° (4) 90°

Practice Set – 2

1. Classify the following numbers as positive numbers and negative numbers.

-5, +4, -2, 7, +26, -49, -37, 19, -25, +8, 5, -4, -12, 27

2. Given below are the temperatures in some cities. Write them using the proper signs

Place	Shimla	Leh	Delhi	Nagpur
Temperature	7 °C below 0°	12 °C below 0°	22 °C above 0°	31 °C above 0°

3. Write the numbers in the following examples using the proper signs.

(1) A submarine is at a depth of 512 metres below sea level.

(2) The height of Mt Everest, the highest peak in the Himalayas, is 8848 metres.

(3) A kite is flying at a distance of 120 metres from the ground.

(4) The tunnel is at a depth of 2 metres under the ground.

Practice Set – 3

1. Add.

(1) 8 + 6

(2) 9 + (-3)

(3) 5 + (-6)

(4) -7 + 2

(5) -8 + 0

(6) -5 + (-2)

2. Complete the table given below.

+	8	4	-3	-5
-2	-2+8=+6			
6				
0				
-4				

3. Write the opposite number of each of the numbers given below.

Number	47	+52	-33	-84	-21	+16	-26	80
Opposite number								

Practice Set - 4

1. Subtract the numbers in the top row from the numbers in the first column and write the proper number in each empty box.

-	6	9	-4	-5	0	+7	-8	-3
3	3-6 = -3							
8				8 – (-5) = 13				
-3								
-2								

Practice Set – 5

1. Write the following examples using fractions.

(i) If 9 kg rice is shared amongst 5 people, how many kilograms of rice does each person get?

(ii) To make 5 shirts of the same size, 11 metres of cloth is needed. How much cloth is needed for one shirt?

2. In the table below, write the place value of each of the digits in the number 378.025.

Place	Hundreds	Tens	Units	Tenths	Hundredths	Thousandths
	100	10	1	1/10	1/100	1/1000
Digit	3	7	8	0	2	5
Place Value	300			0/10=0		5/1000 = 0.005

2. Solve.

(1) 905.5 + 27.197 (2) 39 + 700.65 (3) 40 + 27.7 + 2.451

3. Subtract.

(1) 85.96 - 2.345 (2) 632.24 - 97.45 (3) 200.005 - 17.186

4. Convert the decimal fractions into common fractions.

(1) 27.5 (2) 0.007 (3) 90.8 (4) 39.15 (5) 3.12 (6) 70.400

Practice Set – 6

1. If, 317 × 45 = 14265, then 3.17 × 4.5 = ?

2. If, 503 × 217 = 109151, then 5.03 × 2.17 = ?

3. Multiply.

(1) 2.7 × 1.4 (2) 6.17 × 3.9 (3) 0.57 × 2 (4) 5.04 × 0.7

4. Virendra bought 18 bags of rice, each bag weighing 5.250 kg. How much rice did he buy altogether? If the rice costs 42 rupees per kg, how much did he pay for it?

5. Vedika has 23.50 metres of cloth. She used it to make 5 curtains of equal size. If each curtain required 4 metres 25 cm to make, how much cloth is left over?

Practice Set – 7

1. Carry out the following divisions.

(1) 4.8 ÷ 2 (2) 17.5 ÷ 5 (3) 20.6 ÷ 2 (4) 32.5 ÷ 25

2. A road is 4 km 800 m long. If trees are planted on both its sides at intervals of 9.6 m, how many trees were planted?

3. Pradnya exercises regularly by walking along a circular path on a field. If she walks a distance of 3.825 km in 9 rounds of the path, how much does she walk in one round?

4. A pharmaceutical manufacturer bought 0.25 quintal of hirada, a medicinal plant, for 9500 rupees. What is the cost per quintal of hirada? (1quintal = 100 kg)

Practice Set - 8

(1) The names of the heads of some families in a village and the quantity of drinking water their family consumes in one day are given below. Draw a bar graph for this data.
(Scale : On Y-axis, 1cm = 10 litres of water)

Name	Ramesh	Shobha	Ayub	Julie	Rahul
Litres of water used	30 litres	60 litres	40 litres	50 litres	55 litres

(2) The names and numbers of animals in a certain zoo are given below. Use the data to make a bar graph. (Scale : on Y-axis, 1cm = 4 animals)

Animals	Deer	Tiger	Monkey	Rabbit	Peacock
Number	20	4	12	16	8

(3) The table below gives the number of children who took part in the various items of the talent show as part of the the annual school gathering. Make a bar graph to show this data. (Scale : on Y-axis, 1cm = 4 children)

Programme	Theatre	Dance	Vocal music	Instrumental music	One-act plays
No. of students	24	40	16	8	4

(4) The number of customers who came to a juice centre during one week is given in the table below. Make two different bar graphs to show this data. (Scale : on Y-axis, 1cm = 10 customers, on Y-axis, 1cm = 5 customers)

Type of juice	Orange	Pineapple	Apple	Mango	Pomegranate
No. of customers	50	30	25	65	10

(5) Students planted trees in 5 villages of Sangli district. Make a bar graph of this data. (Scale : on Y-axis, 1cm = 100 trees)

Name of place	Dudhgaon	Bagni	Samdoli	Ashta	Kavathepiran
No. of trees planted	500	350	600	420	540

Practice Set - 9

(1) Write the capital letters of the English alphabet in your notebook. Try to draw their axes of symmetry. Which ones have an axis of symmetry? Which ones have more than one axis of symmetry?
(2) Use colour, a thread and a folded paper to draw symmetrical shapes.
(3) Observe various commonly seen objects such as tree leaves, birds in flight, pictures of historical buildings, etc. Find symmetrical shapes among them and make a collection of them.

Practice Set – 10

1. Find the HCF of the following numbers.
(1) 45, 30 (2) 16, 48 (3) 39, 25 (4) 49, 56 (5) 120, 144 (6) 81, 99 (7) 24, 36 (8) 25, 75 (9) 48, 54 (10) 150, 225
2. If large square beds of equal size are to be made for planting vegetables on a plot of land 18 metres long and 15 metres wide, what is the maximum possible length of each bed ?
3. Two ropes, one 8 metres long and the other 12 metres long are to be cut into pieces of the same length. What will the maximum possible length of each piece be ?
4. The number of students of Std 6th and Std 7th who went to visit the Tadoba Tiger Project at Chandrapur was 140 and 196 respectively. The students of each class are to be divided into groups of the same number of students. Each group can have a paid guide. What is the maximum number of students there can be in each group ? Why do you think each group should have the maximum possible number of students?
5. At the Rice Research Centre at Tumsar, there are 2610 kg of seeds of the basmati variety and 1980 kg of the Indrayani variety. If the maximum possible weight of seeds has to be filled to make bags of equal weight what should be the weight of each bag ? How many bags of each variety will there be ?

Practice Set – 11

1. Find out the LCM of the following numbers. (1) 9, 15 (2) 2, 3, 5 (3) 12, 28 (4) 15, 20 (5) 8, 11
2. Solve the following problems.
(1) On the playground, if the children are made to stand for drill either 20 to a row or 25 to a row, all rows are complete and no child is left out. What is the lowest possible number of children in that school?

(2) Veena has some beads. She wants to make necklaces with an equal number of beads in each. If she makes necklaces of 16 or 24 or 40 beads, there is no bead left over. What is the least number of beads with her?

(3) An equal number of laddoos have been placed in 3 different boxes. The laddoos in the first box were distributed among 20 children equally, the laddoos in the second box among 24 children and those in the third box among 12 children. Not a single laddoo was left over. Then, what was the minimum number of laddoos in the three boxes altogether?

(4) We observed the traffic lights at three different squares on the same big road. They turn green every 60 seconds, 120 seconds and 24 seconds. When the signals were switched on at 8 o'clock in the morning, all the lights were green. How long after that will all three signals turn green simultaneously again?

(5) Different mathematical operations are given in the two rows below. Find out the number you get in each operation and make equations.

16 ÷ 2,

5 × 2,

9 + 4,

72 ÷ 3,

4 + 5 8 × 3,

19 - 10, 10 - 2,

37 - 27,

6 + 7

Practice set – 12

1. Rewrite the following using a letter.

(1) The sum of a certain number and 3.

(2) The difference obtained by subtracting 11 from another number.

(3) The product of 15 and another number.

(4) Four times a number is 24

2. Solve the following equations.

(1) $y - 5 = 1$ (2) $8 = t + 5$ (3) $4x = 52$ (4) $19 = m - 4$ (5) $P 4 = 9$ (6) $x + 10 = 5$ (7) $m - 5 = -12$ (8) $p + 4 = -1$

3. Write the given information as an equation and find its solution.

(1) Haraba owns some sheep. After selling 34 of them in the market, he still has 176 sheep. How many sheep did Haraba have at first?

(2) Sakshi prepared some jam at home and filled it in bottles. After giving away 7 of the bottles to her friends, she still has 12 for herself. How many bottles had she made in all? If she filled 250g of jam in each bottle, what was the total weight of the jam she made?

(3) Archana bought some kilograms of wheat. She requires 12kg per month and she got enough wheat milled for 3 months. After that, she had 14 kg left. How much wheat had Archana bought altogether?

Practice Set – 13

1. In each example below, find the proportion of the first number to the second.

(1) 24, 56 (2) 63, 49 (3) 52, 65 (4) 84, 60 (5) 35, 65 (6) 121, 99

2. Find the ratio of the first quantity to the second.

(1) 25 beads, 40 beads

(2) 40 rupees, 120 rupees

(3) 15 minutes, 1 hour

(4) 30 litres, 24 litres

(5) 99 kg, 44000 grams

(6) 1 litre, 250 ml

(7) 60 paise, 1 rupee

(8) 750 grams, 1 2 kg

(9) 125 cm, 1 metre

3. Reema has 24 notebooks and 18 books. Find the ratio of notebooks to books.

4. 30 cricket players and 20 kho-kho players are training on a field. What is the ratio of cricket players to the total number of players?

5. Snehal has a red ribbon that is 80 cm long and a blue ribbon, 2.20 m long. What is the ratio of the length of the red ribbon to that of the blue ribbon?

6. Shubham's age today is 12 years and his father's is 42 years. Shubham's mother is younger than his father by 6 years. Find the following ratios.

(1) Ratio of Shubham's age today to his mother's age today.

(2) Ratio of Shubham's mother's age today to his father's age today

(3) The ratio of Shubham's age to his mother's age when Shubham was 10 years old.

Practice Set – 14
Solve the following.

(1) If 20 metres of cloth cost `3600, find the cost of 16 m of cloth.

(2) Find the cost of 8 kg of rice, if the cost of 10 kg is `325.

(3) If 14 chairs cost `5992, how much will have to be paid for 12 chairs?

(4) The weight of 30 boxes is 6 kg. What is the weight of 1080 such boxes?

(5) A car travelling at a uniform speed covers a distance of 165 km in 3 hours. At that same speed,

(a) How long will it take to cover a distance of 330 km?

(b) How far will it travel in 8 hours?

(6) A tractor uses up 12 litres of diesel while ploughing 3 acres of land. How much diesel will be needed to plough 19 acres of land?

(7) At a sugar factory, 5376 kg of sugar can be obtained from 48 tonnes of sugarcane. If Savitatai has grown 50 tonnes of sugarcane, how much sugar will it yield?

(8) In an orchard, there are 128 mango trees in 8 rows. If all the rows have an equal number of trees, how many trees would there be in 13 rows?

(9) A pond in a field holds 120000 litres of water. It costs 18000 rupees to make such a pond. How many ponds will be required to store 480000 litres of water, and what would be the expense?

Practice Set - 15
Solve the following.

(1) Shabana scored 736 marks out of 800 in her exams. What was the percentage she scored?

(2) There are 500 students in the school in Dahihanda village. If 350 of them can swim, what percent of them can swim and what percent cannot?

(3) If Prakash sowed jowar on 75% of the 19500 sq m of his land, on how many sq m did he actually plant jowar?

(4) Soham received 40 messages on his birthday. Of these, 90% were birthday greetings. How many other messages did he get besides the greetings?

(5) Of the 5675 people in a village 5448 are literate. What is the percentage of literacy in the village?

(6) In the elections, 1080 of the 1200 women in Jambhulgaon cast their vote, while 1360 of the 1700 in Wadgaon cast theirs. In which village did a greater proportion of women cast their votes?

Practice Set- 16

1. A shopkeeper bought a bicycle for Rs. 3000 and sold the same for `3400. How much was his profit?

2. Sunandabai bought milk for Rs. 475. She converted it into yoghurt and sold it for `700. How much profit did she make?

3. The Jijamata Women's Saving Group bought raw materials worth Rs. 15000 for making chakalis. They sold the chakalis for 22050 rupees. How much profit did the WSG make?

4. Pramod bought 100 bunches of methi greens for Rs 400. In a sudden downpour, 30 of the bunches on his handcart got spoilt. He sold the rest at the rate of Rs. 5 each. Did he make a profit or a loss? How much?

5. harad bought one quintal of onions for Rs. 2000. Later he sold them all at the rate of Rs. 18 per kg. Did he make a profit or incur a loss? How much was it?

Practice Set- 17

1. From a wholesaler, Santosh bought 400 eggs for Rs. 1500 and spent Rs. 300 on transport. 50 eggs fell down and broke. He sold the rest at Rs. 5 each. Did he make a profit or a loss? How much?

2. Abraham bought goods worth Rs. 50000 and spent Rs. 7000 on transport and octroi. If he sold the goods for Rs. 65000, did he make a profit or a loss? How much?

3. Ajit Kaur bought a 50 kg sack of sugar for Rs. 1750, but as sugar prices fell she had to sell it at Rs. 32 per kg. How much loss did she incur?

4. Kusumtai bought 80 cookers at Rs. 700 each. Transport cost her Rs. 1280. If she wants a profit of Rs. 18000, what should be the selling price per cooker?

5. Lalitabai sowed seeds worth Rs. 13700 in her field. She had to spend Rs. 5300 on fertilizers and spraying pesticides and Rs. 7160 on labour. If, on selling her produce, she earned ` 35400 what was her profit or her loss?

6. Maganlal bought trousers for Rs. 400 and a shirt for Rs. 200 and sold them for Rs. 448 and Rs. 250 respectively. Which of these transactions was more profitable?

7. Ramrao bought a cupboard for Rs. 4500 and sold it for Rs. 4950. Shamrao bought a sewing machine for Rs. 3500 and sold it for Rs. 3920. Whose transaction was more profitable?

Practice Set – 18
(1) At a rate of 10 p.c.p.a., what would be the interest for one year on Rs. 6000?
(2) Mahesh deposited Rs. 8650 in a bank at a rate of 6 p.c.p.a. How much money will he get at the end of the year in all?
(3) Ahmed Chacha borrowed Rs. 25000 at 12 p.c.p.a. for a year. What amount will he have to return to the bank at the end of the year?
(4) Kisanrao wanted to make a pond in his field. He borrowed Rs. 35250 from a bank at an interest rate of 6 p.c.p.a. How much interest will he have to pay to the bank at the end of the year?

Practice Set - 19
4. The lengths of the sides of some triangles are given. Say what types of triangles they are.
(1) 3 cm, 4 cm, 5 cm (2) 3.4 cm, 3.4 cm, 5 cm (3) 4.3 cm, 4.3 cm, 4.3 cm (4) 3.7 cm, 3.4 cm, 4 cm
5. The lengths of three segments are given for constructing a triangle. Say whether a triangle with these sides can be drawn. Give the reason for your answer.
(1) 17 cm, 7 cm, 8 cm (2) 7 cm, 24 cm, 25 cm (3) 9 cm, 6 cm, 16 cm (4) 8.4 cm, 16.4 cm, 4.9 cm (5) 15 cm, 20 cm, 25 cm (6) 12 cm, 12 cm, 16 cm

Practice Set – 19
1. Draw line l. Take any point P on the line. Using a set square, draw a line perpendicular to line l at the point P.
2. Draw a line AB. Using a compass, draw a line perpendicular to AB at the point B.
3. Draw line CD. Take any point M on the line. Using a protractor, draw a line perpendicular to line CD at the point M.
4. Draw line l. Take point P anywhere outside the line. Using a set square, draw a line PQ perpendicular to line l.
5. Draw line AB. Take point M anywhere outside the line. Using a compass and ruler, draw a line MN perpendicular to line AB.
6. Draw a line segment AB of length 5.5 cm. Bisect it using a compass and ruler.
7. Take a point R on line XY. Draw a line perpendicular to XY at R, using a set square.

Practice Set – 20
1. Add
(i) $6\frac{1}{3} + 2\frac{1}{3}$
(ii) $1\frac{1}{4} + 3\frac{1}{2}$
(iii) $5\frac{1}{5} + 2\frac{1}{7}$
(iv) $3\frac{1}{5} + 2\frac{1}{3}$
2. Subtract
(i) $3\frac{1}{3} - 1\frac{1}{4}$
(ii) $5\frac{1}{2} - 3\frac{1}{3}$

(iii) $7\frac{1}{8} - 6\frac{1}{10}$

(iv) $7\frac{1}{2} - 3\frac{1}{5}$

3. Suyash bought $2\frac{1}{2}$ kg of sugar and Ashish bought $3\frac{1}{2}$ kg. How much sugar did they buy altogether? If sugar costs 32 rupees per kg, how much did they spend on the sugar they bought?

4. Aradhana grows potatoes in $\frac{2}{5}$ part of her garden, greens in $\frac{1}{3}$ part and brinjals in the remaining part. On how much of her plot did she plant brinjals?

5. Sandeep filled water in $\frac{4}{7}$ of an empty tank. After that, Ramakant filled $\frac{1}{4}$ part more of the same tank. Then Umesh used $\frac{3}{14}$ If the tank has a maximum capacity of 560 litres, how many litres of water will be left in the tank?

Practice Set – 21

1. Multiply

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

(ii) $\frac{6}{7} \times \frac{2}{5}$

(iii) $\frac{5}{9} \times \frac{4}{9}$

(iv) $\frac{4}{11} \times \frac{2}{7}$

2. Ashokrao planted bananas on $\frac{2}{7}$ of his field of 21 acres. What is the area of the banana plantation?

3. Of the total number of soldiers in our army, $\frac{4}{9}$ are posted on the northern border and one-third of them on the north-eastern border. If the number of soldiers in the north is 540000, how many are posted in the north-east?

Practice Set – 22

1. Write the reciprocals of the following numbers.

(i) 7

(ii) $\frac{11}{3}$

(iii) $\frac{5}{13}$

(iv) 2

(v) $\frac{6}{7}$

2. Carry out the following divisions.

(i) $\frac{2}{3} \div \frac{1}{4}$

(ii) $\frac{5}{9} \div \frac{3}{2}$

(iii) $\frac{3}{7} \div \frac{5}{11}$

(iv) $\frac{11}{12} \div \frac{4}{7}$

3. There were 420 students participating in the Swachh Bharat campaign. They cleaned $\frac{42}{75}$ part of the town, Sevagram. What part of Sevagram did each student clean if the work was equally shared by all?