

Grade: 6      **Mathematics: Holiday Home Work for 30 days**      **March-20**

**DAY-1                      Knowing our numbers.**

1. Write the smallest 2 digit number and greatest 2 digit number?
2. Write the smallest 3 digit number and greatest 3 digit number?
3. Write the smallest 4 digit number and greatest 4 digit number?
4. Write the smallest 5 digit number and greatest 5 digit number?
5. Use the given digits and make the 4 digit numbers without repetition (as many as possible).  
(a) 2, 5, 8, 7      (b) 9, 6, 3, 1      (c) 5, 4, 8, 7      (d) 3, 8, 0, 1
6. What do you mean by face value and place value of a given number. Find the place value and face value of the underlined digits.  
(a) 1357      (b) 2938      (c) 5698      (d) 7536
7. Write the Indian system and International system of Numeration.
8. (a) How many centimeters make one meter?  
(b) How many grams make one Kilogram?  
(c) How many millimeters make one centimeter?  
(d) How many meters make one kilometer?
9. Write the numbers from 1 to 50 in Roman numerals.

**DAY-2.**

1. Write the expanded form of 8,35,43,375.
2. Identify the number represented by the number name: Five hundred twenty-five thousand two hundred seventeen.
3. Write the number name of the number 95,673.
4. Select the corresponding number whose expanded notation is given below:  
 $30,000 + 5000 + 600 + 90 + 3$   
(i) 3,05,693    (ii) 3,50,693      (iii) 35,693      (iv) 3,56,903

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5. (a) Fill in the blank: 1 lakh = \_\_\_\_\_ thousand (b). How many lakhs equals 1 crore?

(c). How many lakhs equals 1 million?      (d). Fill in the blank: 1L = \_\_\_\_\_ mL

6.(a) Convert 2 kilograms into grams

(b). How many kilometres equals 1000 meters?

(c). How many meters equal 1000 cm?

7. A new music video on the web received 2,78,946 hits the first day and 3,17,823 hits the second day. How many hits did the video receive in all during the two days?

(Ans.: 5,96,769)

8. Round the number 23467 to nearest: (i) ten    (ii) hundred      (iii) thousand

9. Estimate the difference for the given expression to the nearest hundred:  $1158 - 753$ .

(Ans.: 400)

### **DAY -3**

1. How can we write 5289138 in words according to the international system of numeration?

2. What is the difference between the face values and the place values of the two nines in 8936954? (Ans. : 8,99,991 and 891)

3. Write the corresponding numeral for the given expression:

$$9 \times 1,00,00,000 + 4 \times 10,00,000 + 5 \times 1,00,000 + 8 \times 10,000 + 2 \times 1,000 + 3 \times 100 + 8 \times 10 + 2 \times 1$$

4. Arrange in ascending order:

23,61,897; 4,57,12,688; 45,73,695; 2,36,14,576; 23,64,581; 4,57,13,898

5. Arrange in descending order:

36,45,934; 2,48,63,138; 24,87,527; 3,64,75,249; 36,46,363; 2,48,59,387

6. State distributive property and solve: (i)  $101 \times 497$  (ii)  $77 \times 23$  (iii)  $203 \times 42$  (iv)  $497 \times 98$   
[Hint:  $(100+1) \times 497$ ]      Ans.: (i) 50,197 (ii) 1771 (iii) 8526 (iv) 48,706

7. Estimate the product of the following using general rule of approximation:

$367 \times 56794$ . (Ans.: 2,40,00,000)

8. Estimate the sum of  $23849 + 389$ , correct to nearest hundred. (Ans.: 24,200)

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9. A machine produces 3,575 erasers in a day. How many erasers were produced in February 2016? (Ans.: 1,03,675)

10. Find the difference between the largest 8 digit number and the smallest 5 digit number.

(Ans.: 9,99,89,999)

## **DAY-4              Whole Numbers**

### **A. Number System:**

1. What are natural numbers?

- What is the smallest natural number?
- Are all the numbers positive?
- Is 0 a natural number?

2. What are whole numbers?

- Is the set of whole numbers bigger than the set of natural numbers?
- What is the difference between set of natural numbers and whole numbers?
- What is the least/smallest number in the set of whole numbers?
- Do we have negative numbers in the set of whole numbers?

Properties of whole numbers:

3. What is commutative property of whole numbers under addition? Give an example.

- What is asocciative property of whole numbers under addition? Give an example.
- What is additive identity? Give two examples.
- What is commutative property, associative property of whole numbers under multipliaiton? Give two examples.
- What is distributive property? Give two examples.

4(a). Which number precedes 78,000? .

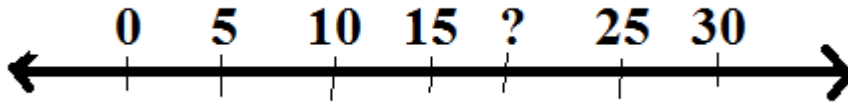
(b) Find the predecessor of 83,20,000.

(c). Which number succeeds 57,899?

(d). Find the successor of 5,21,199.

5. Write four whole numbers before 28201.

6. Find the missing number indicated in the following number line:



7. Identify the property of addition for whole numbers used in the following equality:

$$48 + 79 = 79 + 48.$$

**Identify the properties used in the following questions:**

8. Evaluate using properties of whole numbers:  $(95 \times 7) + (95 \times 3)$ .

9. Evaluate using properties of whole numbers:  $(18 \times 76) - (18 \times 66)$

10. Fill in the blank so that the equality holds:  $12 + (4 + 6) = (\underline{\quad} + 6) + 12$

11. Fill in the blank so that the equality holds:  $12 + (4 + 6) = (\underline{\quad} + 6) + 12.$

### **DAY-5**

1. Hiyang bought a shirt for Rs.475 and a trouser for Rs.1025. How much amount will he pay if he bought 2 shirts and 2 trousers?

2. Write two examples to show that whole numbers are not closed under subtraction.

3. Write two examples to show that whole numbers are not closed under division.

4. Identify the property of whole numbers used in the following equality:

$$32 + (93+15)=(32+93)+15$$

5. Identify property of multiplication used in the following equality:

$$47 \times 3 + 47 \times 7 = 47(3+7)$$

6. Find the sum of the following expression by rearrangement:  $463 + 155 + 637 + 845.$

7. Use suitable property to solve the following:

(i)  $236 \times 999$

(ii)  $478 \times 102$

(iii)  $182 \times 5$

(iv)  $64 \times 25$

(v)  $43 \times 125$

(vi)  $56 \times 15$

(vii)  $12 \times 35.$

8. Give two examples of numbers that can be arranged as triangles using dot pattern.

9. Give two examples of numbers that can be arranged as squares using dot pattern.

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10. Give two examples of numbers that can be arranged as rectangles using dot pattern.

### DAY-6

1. Which of the following gives 1 as answer?

(i)  $4231 + 1$     (ii)  $4325 - 4325$     (iii)  $1 \div 2463$     (iv)  $6343 \div 6343$

2. Give one example to show that the Associative property of division of whole numbers does not hold.

3. Which of these properties of whole numbers does not hold true?

(i) Closure property of division      (ii) Commutative property of division  
(iii) Associative property of division    (iv) All of these.

4. Find the sum of the following expressions by suitable rearrangement:

(Hint: Pair the terms in such a way that the sum of each pair as 0 as the ones place).

(i)  $231 + 563 + 985 + 628 + 896 + 189 + 452 + 987 + 595 + 744$

(ii)  $741 + 615 + 453 + 586 + 968 + 832 + 294 + 387 + 219 + 195$

5. Evaluate the following expression by suitable rearrangement:  $625 \times 30 \times 8 \times 20$

6. For the school fete, a ticket costs Rs.8. There are 25 students in each class and each student bought a ticket. If there are 78 classes in the school, then how much money was collected by the sale of tickets? Ans.: 15,600.

7. There are 15 classes in a school. In each class, there are 22 boys and 28 girls. Find the total number of students in the school? Which property of whole numbers would you use to quickly find the answer? Ans.: 750.

8. Write two numbers that can be arranged both as squares and as rectangles using dots.

(Hint: First, find the numbers than can be arranged in squares and then check whether their rectangular arrangement is possible).

9. A large housing complex has 30 towers. Among these, six towers have 14 floors and 6 flats on each floor. Twelve towers have 22 floors with 4 flats on each floor and 12 towers have 26 floors with 3 flats on each floor. Find the total number of flats in the housing complex. (Hint: Remember that multiplication is distributive over addition). Ans.: 2496

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**DAY-7**

**Mathematics: Holiday Home Work for 30 days**  
**Playing with numbers**

**March-20**

Even Numbers:

1. What are even numbers? Give 3 examples.
2. What are odd numbers? Give 3 examples.
3. What are prime numbers? Give 3 examples.
4. What are composite numbers? Give 3 examples.
5. What are co-prime numbers? Give 3 examples.
6. What are twin primes? Give 3 examples.

Factors, H.C.F, L.C.M, Multiples.

7. What are called as factors? List the factors of 12.
  - If there are 12 chocolates, in how many ways can you group them into equal numbers?
  - What are the factors of prime numbers?
  - How many factors can you have for any given number? Find out by taking two examples. Are the factors finite/infinite?
8. What are multiples? List the multiples of 12.
  - Find the 10 multiples of 2.
  - Find the 10 multiples of 3.
  - Find the 6 multiples of 12.
  - Are the multiples of any number finite/infinite?
9. What is H.C.F? If H.C.F of two numbers is 1, what are those numbers called?
10. What is L.C.M? Can L.C.M of any two numbers be equal to 1?
11. What are consecutive numbers?
  - Write 5 consecutive natural numbers.
  - Write 5 consecutive whole number.
  - Write 5 consecutive integers.
  - Write 5 consecutive prime numbers.
  - Write 5 consecutive even numbers.
  - Write 5 consecutive odd numbers.
  - Write 5 consecutive composite numbers.
12. What is the relation between H.C.F and L.C.M of two given numbers.

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**DAY - 8**

1. Write all the factors of 15.      2. Write the first four multiples of 7.
2. State if the result is always odd or always even:
  - (i) Two odd numbers are added
  - (ii) Three odd numbers are added
  - (iii) One even and two odd numbers are added
  - (iv) two prime numbers greater than 2 are added.
3. State if the following statements are True or False.
  - (i) The product of two consecutive numbers is always even.
  - (ii) The product of two odd numbers is always odd.
  - (iii) The only even prime number is 2.
  - (iv) Composite numbers have only two factors—1 and the number itself.
  - (v) 12 is a factor of 3 and 4.
4. Write all the prime numbers between 1 and 15.
5. Write two pairs of twin-prime numbers.
6. Using the tests of divisibility find which of the following numbers is divisible by both 2 and 5?
  - (i) 23785              (ii) 93234              (iii) 70890              (iv) 48308
7. Using the tests of divisibility find which of the following numbers is divisible by both 4 and 6.
  - (i) 23780              (ii) 93220              (iii) 894532              (iv) 60828

**DAY-9**

1. Using tests of divisibility, find if 55530 is divisible by 45.
2. Find the number closest to and bigger than 1000 that is divisible by both 5 and 6.
3. State whether the given statements are True or False.
  - (i) If a number is divisible by 7, then it must be divisible by 14.

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- (ii) If a number is divisible by both 3 and 5, then it is also divisible by 15.
  - (iii) If two numbers are divisible by 7, then their difference is also divisible by 7.
  - (iv) If a number is divisible by 15, then it is also divisible by 5.
  - (v) If two numbers are separately divisible by 6, then their sum is also divisible by 6.
  - (vi) Two consecutive numbers are not co-prime.
4. Find the prime factorisation of 135 using factor tree.
  5. Find the prime factorisation of 390.
  6. Write the prime factorisation of the smallest 4 digit number.
  7. Find the LCM of 45, 78 and 15 by prime factorisation method.    Ans.: 1170.
  8. Find the LCM of 12, 24 and 36.      Ans.: 72
  9. What is the HCF of 1632, 2976 and 3552?      Ans.: 96
  10. Find the greatest number that divides 79, 115 and 163 leaving remainder 7 in each case.

### **DAY – 10**

1. Replace \* by the smallest digit so that: (i)  $784*679$  is divisible by 3  
(ii)  $25*470$  is divisible by 9.
2. Replace \* by the smallest digit so that:  
(i)  $963*48$  is divisible by 8    (ii)  $1567*78$  is divisible by 6.
3. Using tests of divisibility, find if 55530 is divisible by 45.
4. The HCF of two numbers is 15. The product of the two numbers is 345. What is their LCM?
5. Given two numbers 48 and 80, find their HCF and LCM and verify that  $HCF \times LCM = 48 \times 80$ .
6. Megha has two pieces of cloth. One cloth is 270cm long and the other one is 350cm long. She wants to cut them into strips of equal length that are as long as possible. What is the length of each strip?    Ans.: 10cm.



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7. Two water tanks have capacities 30 litres and 18 litres, respectively. What is the highest measure of a measuring cylinder which can exactly measure the water of both the tanks when the tanks are full?    Ans.: 6 Ltrs.

8. There are two bells in a school. The bell for the middle school rings every 60 minutes, whereas the bell for the junior school rings every 30 minutes. If the school starts at 10:00 AM, when will the bells ring together?    Ans.: 11:00 AM

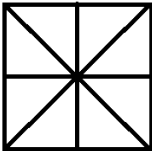

9. Four bells ring at intervals of 4, 7, 12 and 84 seconds, respectively. If they start ringing together at 7:00'clock, when will they ring together again?    Ans.: 07:01:24

**Day 11                      Fractions**

1. What is a fraction? Give two examples.

- What are proper fractions? Give two examples.
- What are improper fractions? Give two examples.
- What are like fractions? Give two examples.
- What are unlike fractions? Give two examples.
- What are equivalent fractions?
- How do you find if two fractions are equivalent?

2. Shade each figure to represent the given fractions.

(i)   $\frac{5}{8}$       (ii)   $\frac{8}{12}$

3. What fraction is 375g of 1 Kg.?    Ans.:  $\frac{3}{8}$

4. Into how many parts would you divide the length between 0 and 1 to represent the fraction  $\frac{1}{11}$ .

5. Which of the following are proper fractions?

- (i)  $\frac{7}{6}$       (ii)  $\frac{78}{89}$       (iii)  $\frac{80}{79}$       (iv)  $\frac{1}{8}$

6. Write a proper fraction whose denominator is 6.

7. Write the following improper fractions as mixed fractions:

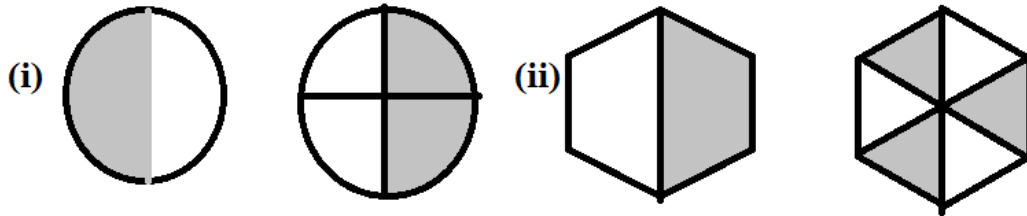
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(i)  $\frac{38}{7}$       (ii)  $\frac{123}{11}$

8. Write the following mixed fractions as improper fractions:

(i)  $3\frac{4}{7}$       (ii)  $5\frac{7}{12}$

9. Write the fraction depicted by shaded portion in each pair of figures. Are they equivalent?



10. Write three equivalent fractions of  $\frac{12}{13}$ .

11. Write the following fractions in their simplest form. (i)  $\frac{40}{48}$       (ii)  $\frac{78}{130}$

12. Which of them are like fractions?  $\frac{1}{2}, \frac{2}{5}, \frac{1}{3}, \frac{3}{5}, \frac{1}{5}$

13. Compare the pair of fractions and fill in the blanks appropriately with  $<$ ,  $>$  or  $=$ .

(i)  $\frac{4}{6}$        $\frac{1}{2}$        $\frac{2}{4}$        $\frac{4}{9}$        $\frac{4}{10}$

14. Find the sum:  $\frac{1}{9} + \frac{4}{9}$

15. Find the difference:  $\frac{7}{13} - \frac{3}{13}$

**DAY - 12**

1. Gopichand spends  $\frac{8}{12}$  of his income and saves the rest. Bimal spends  $\frac{9}{12}$  of his income and saves the rest. Who spends the greater share of his income?

2. A fruit basket has 5 oranges, 4 apples and 7 pears. What fraction of all the fruits are oranges?

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3. What fraction of numbers between 20 and 31 are: (i) Multiples of 3? (ii) Multiples of 5?

4. Represent these fractions on the number line:  $\frac{1}{7}, \frac{6}{21}, \frac{6}{14}, \frac{4}{7}$

5. Write all the proper fractions whose denominator is 2 more than the numerator but less than 8.

6. Find an equivalent fraction of  $\frac{6}{8}$  with denominator 56.

7. Replace @ in the given equality with an appropriate number using cross-product method:  $\frac{5}{7} = \frac{35}{@}$

8. Which of the given pair of fractions are equivalent?

(i)  $\frac{3}{9}$  and  $\frac{12}{36}$       (ii)  $\frac{48}{72}$  and  $\frac{6}{9}$       (iii)  $\frac{9}{13}$  and  $\frac{72}{91}$

9. Arrange the given fractions in ascending order:  $\frac{3}{9}, \frac{8}{18}, \frac{6}{9}, \frac{9}{9}, \frac{16}{18}, \frac{1}{9}$

10. Arrange the given fractions in descending order:  $\frac{3}{9}, \frac{3}{8}, \frac{3}{10}, \frac{9}{33}, \frac{3}{5}, \frac{3}{4}$

11. Harmeet jogged  $\frac{5}{7}$  of an hour and Hitesh jogged  $\frac{7}{9}$  of an hour. Who jogged for a longer duration? Ans.: Hitesh

12. Lathika painted  $\frac{6}{8}$  and Harvinder  $\frac{7}{10}$  of the fence around the school garden.

Who painted more? Ans.: Lathika

### DAY- 13

1. Find the sum:  $\frac{12}{28} + \frac{2}{8}$  Ans.:  $\frac{19}{28}$     2. Find the difference:  $\frac{9}{12} - \frac{5}{16}$  Ans.:  $\frac{7}{16}$

2. In an exam, Manoj answered 25 questions correctly. If the total number of questions asked in the exam were 40 and he didn't attempt 7 questions find:

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(i) The fraction of answers he got right. (ii) The fraction of answers he got wrong.

(iii) The fraction of questions he did not answer.

3. Give reasons to explain which of the following are not proper fractions:

(i)  $\frac{45}{26}$

(ii)  $\frac{0}{13}$

(iii)  $\frac{12}{0}$

(iv)  $\frac{13}{1}$

4. Write all the proper fractions whose numerator and denominator are prime numbers between 65 and 80.

5. Find the bigger fraction from the given pair of fractions.

(i)  $\frac{3}{12}$  and  $\frac{1}{9}$

(ii)  $\frac{23}{26}$  and  $\frac{33}{34}$

(iii)  $4\frac{9}{10}$  and  $5\frac{7}{8}$

(iv)  $3\frac{21}{25}$  and  $2\frac{14}{34}$

6. In Section A of 40 students, 36 students got more than 80% marks. In section B of 36 students, 30 students got more than 80% marks. In which section did a greater fraction of students score more than 80%? Ans.: Section A.

7. Find the sum:  $2 + \frac{3}{4} + 1\frac{5}{8}$  Ans.:  $4\frac{3}{8}$

8. Find the difference:  $5\frac{10}{15} - 3\frac{2}{16}$  Ans.:  $2\frac{13}{14}$

9. On my birthday party, my friends ate  $5\frac{1}{4}$  pizzas. There were  $2\frac{3}{4}$  pizzas left over. How many pizzas were bought for the party? Ans.: 8 pizzas.

10. Ashu had  $3\frac{1}{2}$  bars of chocolate. He gave  $1\frac{1}{4}$  to his sister. How much chocolate is left with him? Ans.:  $2\frac{1}{4}$

11. Sam read  $1\frac{5}{13}$  pages of a novel on Saturday and  $17\frac{7}{12}$  pages on Sunday. Find:

(i) How many more pages did he read on Sunday than on Saturday? Ans.:  $15\frac{5}{156}$

(ii) The total number of pages read on Saturday and Sunday.

## Day 14

## Decimals

1. What are decimals?

2. Can you represent decimals as fractions?

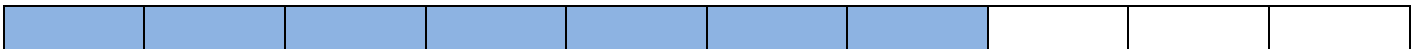
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3. Every decimal has a \_\_\_\_\_ part and a \_\_\_\_\_ part.
4. The numbers to the left of the decimal point form the \_\_\_\_\_ part and the numbers to the right of the decimal point form the \_\_\_\_\_ part of the decimal.
5. The place values to the right of the units place in a decimal are \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ and so on.
6. What are like decimals? Give 2 examples.
7. What are unlike decimals? Give 2 examples.
8. Represent the shaded part of the figure in decimal notation.

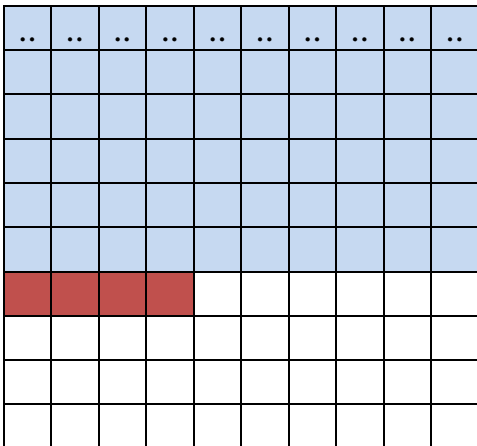
a)



b)



c)



9. Write the following fractions as decimals: (i)  $\frac{5}{2}$  (ii)  $\frac{2}{5}$  (iii)  $\frac{7}{10}$

10. Between which two whole numbers on the number line will each of the following numbers lie?

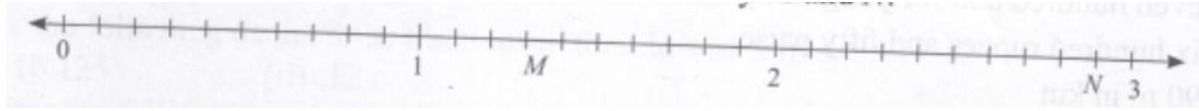
(i) 0.9 (ii) 0.6 (iii) 3.5 (iv) 68.234 (v) 80.009 (vi) 4.8008

11. Change the unit of each of the following measures to cm.

(i) 6cm (ii) 3cm 9cm (iii) 540 cm

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12. Write the decimal numbers denoted on the number line by M and N.



13. Write each of the following as decimals.

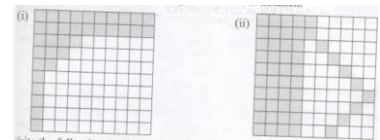
- (i) Three-tenths                                      (ii) Eight tens and two-tenths
- (iii) Five hundreds point six.      (iv) Eight hundreds and eight ones.
- (v) One hundreds seven tens two ones and four-tenths.
- (vi) Six hundred two and nine-tenths five-hundredths
- (vii) Sixty three point one three six      (viii) Five hundred eight and two-thousandths.

14. given the place value table, write the numbers in decimal notation.

	Hundreds (100)	Tens (10)	Ones (1)	Tenths $\left(\frac{1}{10}\right)$	Hundredths $\left(\frac{1}{100}\right)$	Thousandths $\left(\frac{1}{1000}\right)$
(i)	3	5	0	1	7	0
(ii)	0	0	6	5	8	9
(iii)	5	4	0	0	0	8
(iv)	0	3	0	4	0	5

15. Represent the shaded part of the figures in decimal notation.

**DAY-15**



1. Write the following decimals as fractions.

Also reduce them to their simplest form.

- (i) 0.7   (ii) 5.8      (iii) 12.6      (iv) 4.0      (v) 300.205      (vi) 30.15      (vii) 3.055

2. The length of a pencil box is 25cm 9mm. Find the length in cm.

3. The length of an eraser is 13mm. What would be its length in cm?

4. Represent each of the following numbers on the number line. (i) 0.8   (ii) 2.4

5. Write the following as decimals:

- (i)  $4\frac{2}{5}$    (ii)  $600 + 70 + 8 + \frac{9}{10}$    (iii)  $\frac{6}{8}$    (iv)  $\frac{8}{1000}$       (v)  $200 + 40 + 5 + \frac{7}{10} + \frac{8}{100} + \frac{9}{1000}$

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Ans.: (i) 4.4 (ii) 678.9 (iii) 0.75 (iv) 0.008 (v) 245.789

6. Express the following in decimal form.

(i) Seven hundred and forty eight rupees and nine paisa (ii) Six hundred rupees and fifty paisa.

(iii) 790m in km (iv) 4007 g in Kg.

7. Compare the decimals by inserting  $>$  or  $<$  symbols in the boxes:

(i)  $5 \square$  5.66 (ii)  $\square$  6.007 (iii)  $\square$  18.009 (iv)  $\square$  39.4

8. The decimal number 0.056 lies between:

(i) 0.050 and 0.006 (ii) 0.055 and 0.049 (iii) 0.052 and 0.060 (iv) 0.053 and 0.050

9. Arrange in descending order:

10. 09, 8.1, 9.99, 10.19, 10.119, 10.99, 9.98, 10.1, 10.09

11. Find the sum in each case.

(i)  $40.67 + 53.19$  (ii)  $251.34 + 234.24 + 89.34$  (iii)  $256.009 + 34.27 + 8.8$

12. Find the difference in each case.

(i)  $97.67 - 45.78$  (ii)  $514.78 - 34.09$  (iii)  $24.07 - 4.678$

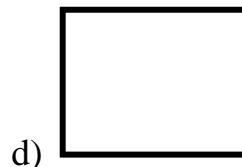
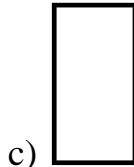
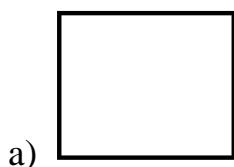
13. Fareeda wants to purchase a dress for Rs.245.70. She has Rs.195.50 with her. How much more money does she need? Ans.:Rs.50.20

14. The temperature in a city at noon was  $30.8^{\circ}\text{C}$ . It rained a little and the temperature came down by  $9.6^{\circ}\text{C}$ . What was the temperature of the city after the rains? Ans.:  $21.2^{\circ}\text{C}$

### DAY - 16      Mensuration

1. Draw a square of side 4 cm.

2. Measure and find if the following are squares or rectangles.



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3. a) What do you mean by perimeter of any closed figure.

b) What do you mean by area of any closed figure?

4. Why do we use units to measure area and perimeter?

5. Write the formulas for a) Perimeter of the rectangle.      b) Perimeter of a square.

c) Area of a square d) Area of a rectangle.

6. What do you mean by regular figures? Give two examples.

7. Given a side of length  $\ell$ . Find

a) Perimeter of equilateral triangle      b) Perimeter of a square      c) Perimeter of a regular

pentagon. d) Perimeter of a regular hexagon.

8. Find the perimeter of the following figures.

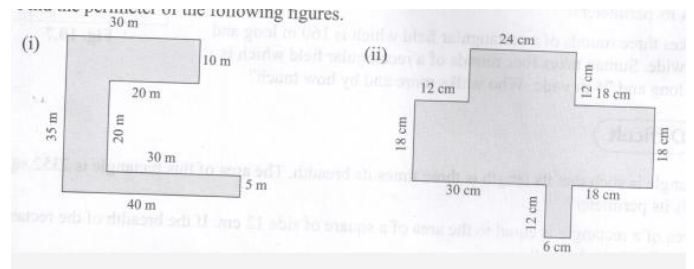
Ans.: (i) 190 m., (ii) 168 cm.

9. Find the perimeter of a square of side 12 cm.

10. What is the perimeter of a rectangle whose length is 20cm and breadth is 10cms?

11. a) What is the perimeter of an equilateral triangle of side 42cm?

b) What is the perimeter of a regular pentagon with each side measuring 24cm?



### DAY - 17

1. a) What is the area of a square of side 6m?

b) What is the area of a rectangle with sides 35mm and 15mm?

2. Ashu wants to buy a table cloth that exactly covers a rectangular table which is 27 inches long and 18 inches broad. What should be the area of the table cloth? Give your answer in sq. inches.      Ans. : 486 sq.inches.

3. Rohan takes 5 laps around a rectangular field which is 60m long and 35m wide. How much distance he cover.      Ans.: 950 m.

4. Geeta walks around a square park four times. If the side of the park measures 150m, how much distance does she cover?      Ans.: 2.4 km.



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5. The length of a rectangle is 52.87 m and the breadth is 17.43m.

what is its perimeter?      Ans.:140.60 m.

6. Rita takes three rounds of a rectangular field which is 160m long and 150m wide, Suman takes four rounds of a rectangular field which is 120m long and 75m wide. Who walks more and by how much?      Ans.:Rita walks 300 m. more than Suman.

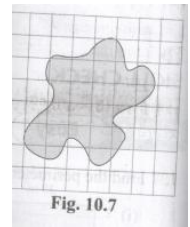
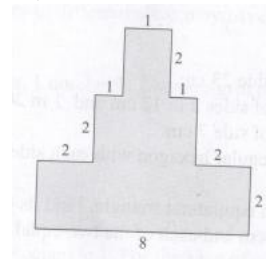
**DAY – 18**

7. The dimensions of the floor of a room are 10m x 8m. It has to be covered with tiles measuring 0.8m x 0.5m. How many such tiles are required?      Ans.: 200 tiles.

8. A room has length 15m and breadth 12m. The floor of the room has to be tiled with square tiles of side 0.6m. How many tiles are required?      Ans.:500 tiles.

9. Given that the area of each small square is 1 square unit, what is the area of the shaded portion in Figure 10.7?

Ans.:19 Sq. Units



10. Find the area of the given figure by splitting it into rectangles.      Ans.:38 sq.cm.

11. A craftsman wants to make a huge rectangular carpet measuring 12.8m x 5.5m by joining together small carpet patches measuring 0.5m x 0.8m. How many such patches are required?      Ans.: 176 patches.

12. The dimensions of a room are 4.25m x 3.25m. A square carpet of side 0.8m is laid on the floor. What is the area of the uncovered floor?      Ans.:13.1725 sq.m.

13. A piece of cardboard is 3.25 m long and 2.75 m wide. Four square pieces of sides 0.75m are cut out of it. What is the area of the cardboard left?      Ans.:6.6875 sq.m.

**DAY- 19      Basic Geometrical Ideas**

1. Draw a a) Ray b) Line c) Line segment

2. Choose the correct option:

(i) A \_\_\_\_\_ marks the exact location of an object. a) plane      b) point      c) lined) ray

(ii). A collection of points along a straight path going endlessly in both directions is called a \_\_\_\_\_.      a) ray b) line      c) line segment      d) plane

(iii) A \_\_\_\_\_ as no length, breadth or height.

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- a) point                      b) line                      c) plane                      d) ray

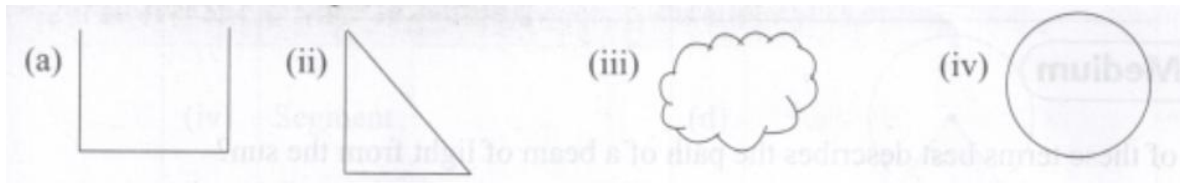
(iv) A \_\_\_\_\_ has only length and no width.

- a) point                      b) line                      c) plane                      d) ray.

(v) Which of these is a line?

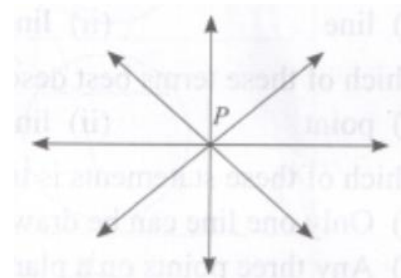


(vi) Which of these is an open curve?

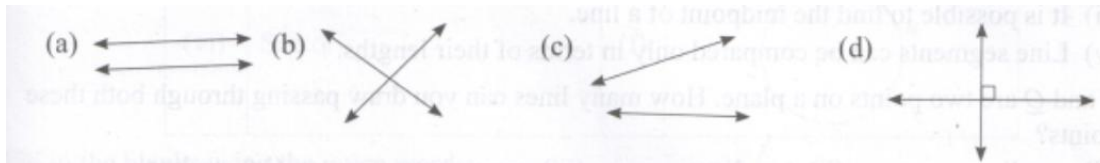


(vii) In the given figure, point P is \_\_\_\_\_.

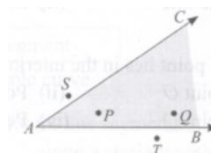
- (a) Vertical point  
(b) point of concurrence    (c) point of intersection  
(d) both point of intersection and point of concurrence.



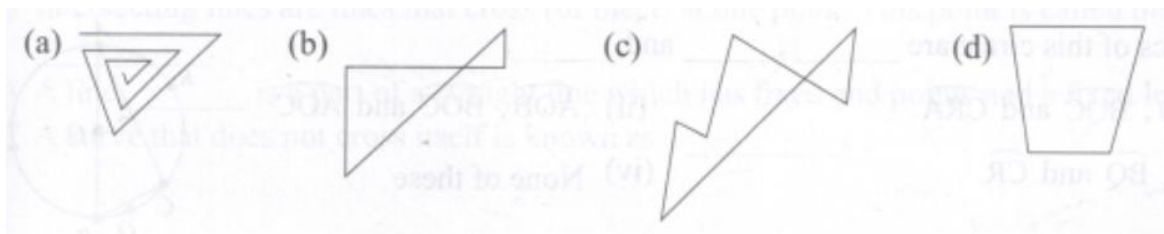
(viii) Which of these pairs of lines are parallel?



(ix) Which of these points lie in the interior of the angle CAB?



(x) Which of these is an open curve?



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3. Match the geometric entities in column A with the way they are denoted in column B.

Column A	Column B
(i) Line	(a) $\angle ABC$
(ii) Ray	(b) $\overline{AB}$
(iii) Line segment	(c) $\overleftrightarrow{AB}$
(iv) Angle	(d) $\triangle ABC$
(v) triangle	(e) $\overleftrightarrow{AB}$

4. The vertex of an angle lies (i) in its exterior (ii) on the triangle

(iii) in its interior (iv) on the intersections of its arms.

5. A triangle has \_\_\_\_\_ sides.

(i) 4 (ii) 5 (iii) 3 (iv) 0

6. A quadrilateral has \_\_\_\_\_ angles. (i) 4 (ii) 5 (iii) 3 (iv) 2

7. Which of these terms best describes the path of a beam of light from the sun?

(i) line (ii) line segment (iii) ray (iv) point

8. Which of these terms best describes the path of an arrow fired from its bow to hit a target?

(i) point (ii) line (iii) line segment (iv) ray

9. Which of these statements is true?

(i) Only one line can be drawn passing through a given point.

(ii) Any three points on a plane always lie on the same line.

(iii) It is possible to find the midpoint of a line.

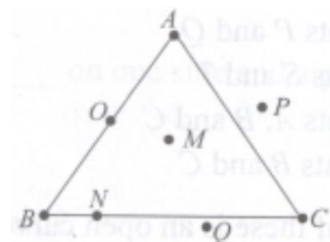
(iv) Line segments can be compared only in terms of their lengths.

10. P and Q are two points on a plane. How many lines can you draw passing through both these points?

(i) one line (ii) two lines (iii) many lines (iv) no line.

11. Which point lies in the interior of the given figure?

(i) Point O (ii) Point M (iii) Point Q (iv) Point P

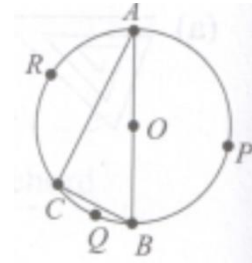


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DAY- 20

1. Consider the given figure.

Three arcs of this circle are \_\_\_\_\_ , \_\_\_\_\_ and \_\_\_\_\_.

- (i)  $ABC, BQC$  and  $CRA$     (ii)  $AOB, BOC$  and  $AOC$   
(iii)  $AP, BQ$  and  $CR$     (iv) None of these.



2. A circle has radius 12cm. What is the length of the longest stick that can be placed inside this circle such that the two ends of the stick lie on the circle?

- (i) 12cm                      (ii) 24cm                      (iii) 18cm                      (iv) 36cm.

3. Match the parts of a circle given in Column A with their figures given in column B.

	Column A		Column B
(i)	Radius	(a)	
(ii)	Diameter	(b)	
(iii)	Chord	(c)	
(iv)	Segment	(d)	
(v)	Arc	(e)	
(vi)	Sector	(f)	

4. Fill in the blanks using the given words:

Directions	Polygons	Segment
Diagonal	Intersection	Simple curve

(i) \_\_\_\_\_ are simple closed curves that are made of only straight line segments.

(ii) A line is a collection of points going endlessly in both \_\_\_\_\_ along a straight path.

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(iii) Intersecting lines are lines that cross (or meet) at one point. This point is called the point of \_\_\_\_\_.

(iv) A line \_\_\_\_\_ is a part of a straight line which has fixed end points and a fixed length.

(v) A curve that does not cross itself is known as a \_\_\_\_\_.

5. From figure 4.1, identify the following:

(i) A pair of parallel lines (ii) A pair of intersecting lines.

(iii) Two lines passing through the point P

(iv) The point of intersection of lines r, q and m (v) Three lines intersecting the point A

6. Consider the figure 4.2.

Which of these is a pair of parallel lines?

(i)  $l$  and  $n$  (ii)  $t$  and  $m$  (iii)  $s$  and  $m$  (iv)  $l$  and  $m$

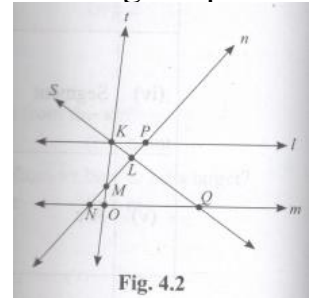


Fig. 4.2

7. How many radii does a circle have?

(i) 1 (ii) 10 (iii) infinite (iv) 2

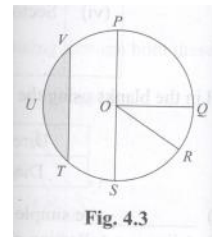


Fig. 4.3

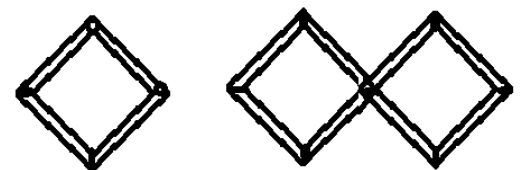
8. Answer the following from figure 4.3

- (i) Name the centre of the circle.
- (ii) Name two radii of the circle.
- (iii) Name a diameter of the circle
- (iv) Name an arc of the circle.
- (v) Name a segment of the circle.
- (vi) Name a sector of the circle
- (vii) Name a chord of the circle.

**DAY – 21 Algebra**

1. The figure given alongside shows the pattern of diamonds formed by matchsticks. Find the rule which gives the matchsticks required in terms of the number of diamonds. Use  $d$  for the number of diamonds.

2. Write algebraic expressions for each of the following algebraic statements.



- (i) 19 added to  $y$  (ii) 4 subtracted from  $q$
- (iii) 12 multiplied by  $s$  (iv) 8 divided by  $d$  (v)  $b$  multiplied by  $-2$ .

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3. Write the statements for the following algebraic expressions.

(i)  $x + 6$       (ii)  $20 + y$       (iii)  $4 + 9r$       (iv)  $\frac{2q}{5}$

4. Generalize the commutative property of addition of whole numbers using the variables  $m$  and  $n$ .

5. Which of the following are algebraic expressions?

(i)  $12 \div (-8)$       (ii)  $45 + (23 - 3)x^2$       (iii)  $44 - \frac{1}{2}$

(iv)  $13 - \frac{1}{2}(4 - 7z)$       (v)  $22x(39 \div 13) + 6$

6. Following are some algebraic statements. Change them into ordinary language.

(i) Shyam has Rs. $x$ . Ritu has Rs. $(x-8)$ .(ii) The length of a playground is  $lm$ . Its breadth is  $\left(\frac{1}{3} - 4\right)m$ (iii) Ramesh has  $x$  marbles. Karn has  $\frac{5}{4}x$  marbles.

7. Write algebraic expressions for each of the following algebraic statements.

(i)  $n$  multiplied by 8 and then 15 subtracted from the product.(ii)  $q$  multiplied by -4 and then 7 subtracted from the product.

8. Write the statements for the following algebraic expressions.

(i)  $5a-1$       (II)  $-20+y$       (iii)  $-8(2-m)$       (iv)  $\frac{25}{s} - 2$

9. List all the expressions that can be formed using  $b$  and 4 such that:

- There is at the most one number operation in each expression.
- Each expression has  $b$  in it.

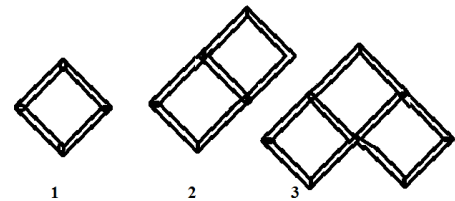
10. Formulate a rule to find the perimeter of a regular octagon if the length of its side is denoted by  $l$ . [Hint: A regular octagon has eight equal sides.]

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**DAY - 22**

1. Generalize the associative property of addition of whole numbers using the variables p, q and r.
2. Raveena has 3 dolls more than Naina. Find the number of dolls that Raveena has if Naina has n dolls.
3. A man is 3 years younger than Sudha. If Aman is x years old, what will be Sudha's age after 10 years.
4. Kaajal is 4 years younger than Reema. If Reema's age is y years, what is Kaajal's age?
5. The length of a rectangle is 2 times its breadth. Find the length if the breadth is b meters.
6. Choose the option that is the solution of the equation  $32x = 352$   
[Hint: By substituting the given values of x]  
(i)  $x = 13$     (ii)  $x = 12$     (iii)  $x = 11$     (iv)  $x = 14$ .

7. Choose the option that is the solution of the equation  $\frac{4y}{10} = 6$   
[Hint: By substituting the given values of x]  
(i)  $y = 12$     (ii)  $y = 15$     (iii)  $y = 18$     (iv)  $y = 30$ .

8. Ibrahim and Karita thought of decorating their poster with the pattern of squares made with matchsticks as given below:



- (i) Formulate a rule for finding the number of matchsticks required for making the nth figure.
- (ii) How many matchsticks will be required for making 10<sup>th</sup> figure.

9. Geetkamal wishes to put apples in a small rectangular box in rows of 5 apples each.

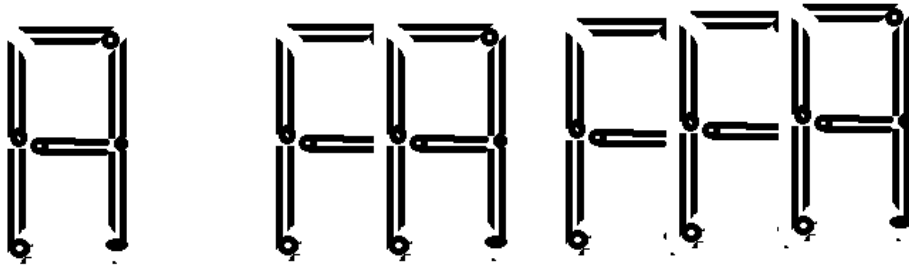
- (i) Find the rule that gives the number of apples that can be put in the box given the number of rows. (use r for number of rows).
  - (ii) Find the number of apples in 8 such boxes if the number of rows is 7.
10. List all the expressions that can be formed using p, 6 and 9 such that:

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- Each expression has p, 6 and 9 in it.
- No more than two number operations (one of + or – and one of or ÷) are used in each expression.
- No two expressions are same.

11. Use the trial and error method to find the solution of the equation  $35 = 14 + 3x$ .

Find the rule that gives the number of matchsticks required to make the given pattern:



**DAY – 23      Ratio and Proportion.**

1. What do you mean by ratio? Give two examples.
2. Does ratio have any units to represent it?
3. What is the ratio of:
  - (i) 20 pens to 70 pens?    (ii) 13 notebooks to 65 notebooks?
4. Which of the following is a valid ratio?
  - (i) -3 : 4    (ii) 5 : -6    (iii) 4 : 7    (iv) -7 : -4
5. Sam covers 1 km in 8 minutes. If he continues to walk at the same speed, how much distance will he cover in 24 minutes?
6. A box containing 10 pencils costs Rs.12. How much would 7 such boxes cost?
7. A room is 10 feet wide and 12 feet long. What is the ratio of its length to its breadth?
8. Divide Rs.520 between Aryan and Amit in the ratio 5 : 8. [Ans.: Rs.200 and Rs.320]
9. Which of these ratios is/are equivalent to 4 : 9?
  - (i) 28 : 63    (ii) 44 : 99    (iii) 64 : 144    (iv) All of these.



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10. Fill in the missing numbers:  $\frac{4}{9} = \frac{\quad}{18} = \frac{24}{\quad} = \frac{\quad}{27}$

**DAY - 24**

1. A bike covers 15m in one second. If the bike runs at the same speed, how much distance will it cover in 3 minutes? [Ans.: 2.7 km.]

2. A box containing 8 pairs of socks costs Rs.240. What will be the cost of 2 boxes containing 10 pairs of socks each? [Ans.: Rs.600 ]

3. The length of a hall is 45m and its breadth is 30m. What is the ratio of its length to its perimeter? [Ans.: 1 : 5]

4. Divide 49 pens between Anjan and sukhjeet in the ratio 3 : 4. [Ans.: 21 and 28]

5. An amount of Rs.150 is divided between two boys in such a way that the first boy gets twice the amount that the second boy gets. How much money does each boy get? [Ans.:Rs.100 and Rs.50]

6. What is the ratio of:

(i) 220mL to 3.5L?      (ii) 60 paise to Rs.2?      [Ans.: (i) 11 : 175 (ii) 3 : 10]

7. The height of Qutub Minar is 72.5 m. A replica of the Qutub Minar is made which has a height of 1.25m. What is the ratio of the height of the actual monument to that of the replica? [Ans.: 160 : 1]

8. Are the numbers 15, 25, 21, 35 in proportion?

(i) Yes      (ii) No      (iii) Can't say      (iv) More data is required.

9. Grandfather divided toys between Ganesh and Perna in the ratio 7 : 9. Fill up the table that shows some possible number of chocolates shared between them.

Ganesh	14	63	_____	42
Perna	18	_____	162	_____

**Day-25**

1. A car covers 6Km in 4 minutes. If it travels at the same speed, how much distance will it cover in 2 hours. [Ans.: 180 km.]

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2. Two cartons of 10 shirts each cost Rs.12,000. How much will 4 cartons of 15 shirts each cost? [Ans.:Rs.36,000]

3. A class room is 20 feet wide. Its length is twice as long as its breadth. What is the ratio of the length of the room to its perimeter? [Ans.: 1 : 3].

4. The statue of Liberty is 93 m high. Its souvenir of height 12.4cm is to be made. What is the ratio of the height of the statue to that of the souvenir? [Ans.: 750 : 1]

5. Find the ratio of the following:

(i) 3 hours 20 minutes to 8 hours 20 minutes.(ii) 3 weeks 4 days to 5 weeks 2 days.

[Ans.: (i) 16 : 25 (ii) 25 : 37]

6. Are the following pair of ratios in proportion? If yes, write their middle terms and extreme terms.

(i) 2000 paise to 80 rupees and 1.2 Kg. to 2400g. (ii) 0.068 L to 12mL and 102m to 18m

7. Ramesh earns Rs.28000 per month. His wife rama earns rs.36000 per month. Find the ratio of a) Ramesh's earnings to their total earnings b) Rama's earnings to their total earnings. [Ans.: (i) 7 : 16 (ii) 9 : 16]

8. Of 288 persons working in a company, 112 are men and the remaining are women. Find the ratio of the number of

a) men to that of women b) men to the total number of persons.

c) women to the total number of persons

[Ans.: (a)7 : 11 (b) 7 : 18 (c) 11 : 18]

9. Samira sells newspapers at Janpath crossing daily. On a particular day, she had 312 newspapers out of which 216 are in English and remaining in Hindi. Find the ratio of

a) the number of English newspapers to the number of Hindi newspapers.

b) the number of Hindi newspapers to the total number of newspapers.

[Ans.: (a) 9 : 4 (b) 4 : 13]

10. The students of a school belong to different religious backgrounds. The number of Hindu students is 288, the number of Muslim students is 252, the number of Sikh students is 144 and the number of Christian students is 72. Find the ratio of

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a) the number of Hindu students to the number of Christian students.

b) the number of Muslim students to the total number of students.

[Ans.: a) 4 : 1      b) 1 : 3]

### **DAY – 26 Integers**

1. Define the set of integers? Draw the number line to represent the set of integers.

2. Do we have negative numbers in the set of integers?

3. What is the greatest negative integer?

4. What is the least positive integer?

6. Is zero a positive integer or a negative integer?

7. Is the set of integers finite or infinite?

8. Where do we use negative integers in real life? Give three examples.

9.. Write the following as integers with appropriate signs.

(i) A gain of 20%      (ii) 25° C above freezing point      (iii) 10 Km below sea level

(iv) 15 Km above sea level      (v) A fall of Rs.2 in price      (vi) Deposit of Rs.2000.

10. Write the opposite statement of each of the following:

(i) Deposit of Rs.500      (ii) Going 20 Km north      (iii) Withdrawal of Rs.350

(iv) Gaining 10 Kg.      (v) Loss of Rs.200      (vi) 30 Km above sea level.

11. If we are at -7 on a number line in which direction should we move to reach the following?

(i) -1      (ii) -6      (iii) 5      (iv) 0

12. In the following pairs, which number is to the left of the other on the number line?

(i) 20.56      (ii) -20, -23      (iii) -3, 6      (iv) 0, -8

### **DAY - 27**

1. Using the number line write the integer which is:

(i) 3 more than 8      (ii) 4 more than -2      (iii) 6 less than 7      (iv) 3 less than -5

Grade: 6      **Mathematics: Holiday Home Work for 30 days**      **March-20****[Ans.:(i) 11 (ii) 2 (iii) 1 (iv) -8]**

2. Represent the following numbers on the number line.

(i) +4 (ii) 0 (iii) -6 (iv) +9 (v) -1 (vi) -5 (vii) +1 (viii) -9

3. Compare the following pairs of numbers using the symbols  $<$  and  $>$ 

(i) -2 \_\_\_\_\_ 0 (ii) -3 \_\_\_\_\_ -6 (iii) -3 \_\_\_\_\_ -1 (iv) 10 \_\_\_\_\_ 12

(v) -9 \_\_\_\_\_ -22 (vi) -5 \_\_\_\_\_ 3 (vii) 8 \_\_\_\_\_ -10

4. State whether the following are True or False. Correct the statement if incorrect.

(i) Negative numbers and positive numbers together form the system of integers.

(ii) The negative integers are smaller than the positive integers and zero.

(iii) Zero is neither a positive nor a negative integer.

(iv) -86 is greater than  $-75$ . (v) -9 is to the left of -10 on a number line.

(vi) The smallest integer is 0

(vii) On a number line, if you move 2 steps to the left from 0, you will reach 2.

(viii) Two steps to the left of -7 is 5.

5. Find the sum of each of the following:

(i)  $-34 + (-43)$  (ii)  $(-7) + (-5)$  (iii)  $(-12) + (-32)$ (iv)  $(-6) - 10$  (v)  $(-13) - 20$  (vi)  $-56 + (-12)$ 

6. Find the difference of the following:

(i)  $23 - (-7)$  (ii)  $54 - (-32)$  (iii)  $83 - (-71)$  (iv)  $43 - (-89)$ (v)  $39 - (-72)$  (vi)  $(-89) - (-12)$  (vii)  $(-81) - (-50)$  (viii)  $(-32) - (-13)$ 

7. Find integers lying between 6 and -8. Arrange them in increasing order.

8. Arrange the following integers in the ascending order: -2, 1, 0, -3, +4, -5

9. Write five integers which are less than  $-100$  but greater than  $-150$ 

10. Find the integers lying between -15 and -22. Arrange them in descending order.

**DAY- 28**

Grade: 6 Mathematics: Holiday Home Work for 30 days March-20

1. Find the sum of the following using the number line.

(i)  $4 + 5$       (ii)  $4 + 3$       (iii)  $5 + (+4)$       (iv)  $7 + (-9)$       (v)  $(-7) + 4$       (vi)  $(-4) + 9$

(vii)  $(-3) + (-4)$       (viii)  $(-5) + (-1)$       (ix)  $(-8) + (+5)$       (x)  $(-6) + (2)$

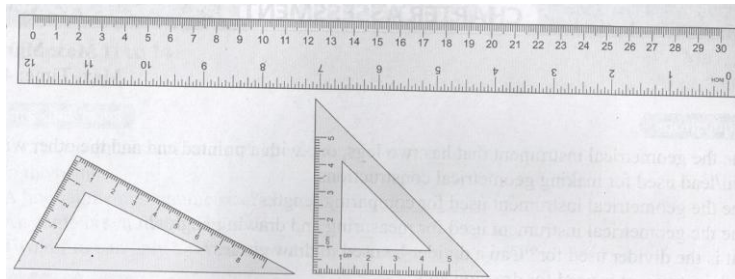
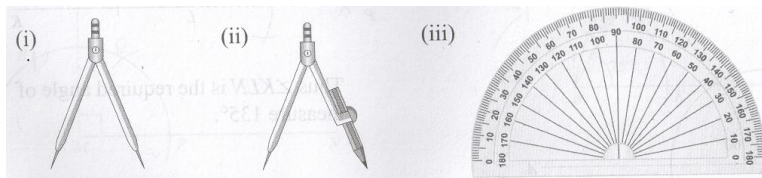
2. Find the sum of

(i)  $5 + 13 + (-8) + (-9)$       (ii)  $(-24) + 20 + (-14) + 7$       (iii)  $4568 + (-6235) + (77) + (-346) + 74$

3. Find:      (i)  $(-10) - 23 - (-54) + 12$       (ii)  $17 - (18) + 24 - 36$       (iii)  $823 + (-956) - 234 - (-325)$   
(iv)  $750 - (-830) - 235 + ((-450))$

**DAY-29 Practical Geometry.**

1. Write the names of the geometrical tools shown below:



2. Draw a circle of radius 5cm.

3. Draw a circle of diameter 3.5cm.

4. Draw a line segment  $AB = 9\text{cm}$ . Construct another line segment  $PQ$  such that  $PQ = AB$ .

5. Draw a line segment  $AB$  of length 5cm. Construct a perpendicular bisector at a point  $M$  on the line using set-square.

6. Draw a line segment  $PQ$ . Take any point  $A$  on it. Draw a perpendicular to  $PQ$  through  $A$ .

7. Draw a line segment  $AB$ . Take any point  $C$  outside  $AB$ . Draw a perpendicular to  $AB$  through  $C$ .

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8. Write the steps for constructing a perpendicular bisector to a given line segment.
9. Use protractor to draw angles measuring  $15^\circ$  and  $25^\circ$ , *respectively*.

**DAY - 30**

1. Draw a line segment  $AB = 3.5\text{cm}$ . Construct another line segment  $PQ$  such that  $PQ$  is treble of  $AB$ .
2. Draw  $\angle PQR = 75^\circ$  using a protractor. Construct  $\angle SAT = \angle PQR$  using compass.
3. Draw  $\angle ABC = 75^\circ$  with a protractor. Now draw its angle bisector using compass.