

# **Brilliant Public School , Sitamarhi**



## **Class - VI**

# **Maths Worksheets**

**Session : 2012-13**

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# BRILLIANT PUBLIC SCHOOL, SITAMARHI

## VI – MATHS WORKSHEET

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### Whole Numbers

FILL IN THE BLANKS:

1. The whole number which is not a natural number is \_\_\_\_\_ .
2. The natural number whose predecessor does not exist is \_\_\_\_\_ .
3. There are \_\_\_\_\_ whole numbers up to 75.
4. Predecessor of 2, 90, 099 is \_\_\_\_\_ .
5. There are \_\_\_\_\_ natural numbers up to 80.
6. The additive identity for whole numbers is \_\_\_\_\_ .
7. The statement  $(3 + 5) + 6 = 3 + (5 + 6)$  shows that addition of whole numbers is \_\_\_\_\_ .
8. \_\_\_\_\_ is the multiplicative identity of whole numbers.
9.  $6 \times (7 + 3) = (6 \times 7) + (6 \times 3)$ . This statement shows that multiplication of whole numbers is \_\_\_\_\_ over addition.
10.  $(3 \times 5) \times 9 = 3 \times (5 \times 9)$ . This statement shows that multiplication of whole number is \_\_\_\_\_ .
11. \_\_\_\_\_ is the only whole number which when divided by it self gives a quotient equal to itself.

DO THE FOLLOWING:

1. How many times does the digit 5 occur in tens place in the natural numbers from 100 to 1000?
2. How many times does the digit 9 occur in the units place in all the natural numbers up to 100 ?
3. Find the sum by suitable rearrangement.
  - a)  $534 + 100 + 466$
  - b)  $365 + 700 + 635$

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4. Add each of the following and check by reversing the order to the addends.  
(a)  $3025 + 1825$       (b)  $2094 + 2942$
5. Find the product using properties of whole numbers.  
(a)  $155 \times 601$       (b)  $1800 \times 499$       (c)  $71 \times 380$ .
6. Find the value of the following expressions using properties of whole numbers.  
(a)  $4,380 \times 85 - 4,380 \times 75$   
(b)  $270 \times 8 + 270 \times 9 + 270$   
(c)  $45 \times 20 \times 5$
7. Find the quotient and remainder in each of the following divisions. Check the answer by division algorithm.  
(a)  $4,567 \div 234$       (b)  $3,645 \div 15$       (c)  $7,654 \div 19$
8. The product of two numbers is 3,75,200. If one of the numbers is 160. Find the other?
9. On dividing 4,56,789 by a certain number the quotient is 1,952 and a remainder 21 is left. Find the number.
10. Divide the largest 4 – digit number by the largest 2 digit number and write down the quotient and the remainder.

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### Negative Numbers And Integers

I. ANSWER THE FOLLOWING:

1. Which is the smallest positive integer?
2. Which is the greatest negative integer?
3. Write absolute value of a)  $|-13|$  b)  $-|-30|$
4. Which integer is neither positive nor negative?
5. Write the opposite of  $-875$ .
6. Which is greater:  $-41$  or  $-14$  ?
7. Write the integer which is 5 more than  $-5$ .
8. Find  $(-19) + 9$ .
9. Replace \* by  $<$  or  $>$ 
  - i)  $-3 * 3$  ii)  $0 * -125$
10. Subtract  $-1140$  from  $-780$ .

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II. ANSWER THE FOLLOWING:

1. Write all integers between  $-35$  and  $-31$ .

2. Sum of two integers is  $1890$ . If one of them is  $-412$ . Find the other integer.

3. Fill the boxes with  $<$  or  $>$

i)  $(-9) + (-6)$    $(-6) - (-9)$

4. Add i)  $-2050$       ii)  $396$       c)  $-493$

$$\begin{array}{r} + 687 \\ \hline \end{array}$$

$$\begin{array}{r} -159 \\ \hline \end{array}$$

$$\begin{array}{r} + 108 \\ \hline \end{array}$$

5. Simplify

i)  $-37 + 28 - 6 + 23$

ii)  $1 - 3 + 5 - 7 + 9 - 11 + 13 - 17$

iii)  $0 + 2 - 4 + 6 - 8 + 10 - 12 + 14$

6. Represent all integers between  $-5$  and  $+3$  on the number line.

7. Write the integer which is i) 3 more than  $-2$  (ii) 4 less than  $-1$

iii)  $-2$  more than  $-5$       iv)  $-3$  less than  $-4$

Show answers on number line.

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8. Arrange in increasing and decreasing order.
- i)  $-12, 0, 7, -9, 8, -8, -14$
- ii)  $-3, 2, -5, 10, 11, -15, 6, 25$
- ii)  $-6, 0, -5, -7, 3, 4, -16, 8$
9. Find the value of i)  $9 - / -7 /$  ii)  $- / -15 /$  iii)  $26 - / -10 / + / -13 /$
- iv)  $4 + / -4 / + 4 + / -4 /$
10. Draw a number line and answer the following:
- a) Which number will we reach if we move 3 number to the left of  $-5$ .
- b) If we are at  $+3$  in which direction should we move to reach  $-10$ .

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### Playing With Numbers

I) Choose the correct answers :

- HCF of two consecutive even numbers  
a) 1      b) 2      c) 3      d) 4
- LCM of two Prime numbers is  
a) their sum  
b) their difference  
c) their product  
d) none of these.
- The Prime factorization of 126 is  
a)  $2 \times 2 \times 3 \times 6$   
b)  $2 \times 3 \times 3 \times 7$   
c)  $2 \times 3 \times 3 \times 4$   
d) none of these
- The fundamental theorem of Arithmetic states that :  
a) every number greater than 1 has many factors.  
b) every number greater than 1 has exactly one Prime factorization.  
c) every number greater than 1 has many multiples.  
d) none of these
- The number which is divisible by 9 is  
a) 7802              b) 8100      c) 3271      d) none of these

II) Find the value of

- $4 + 3 \times (5 + 3)$
- $6 \times 8 - 25 \div 5 + 3$
- $12 \div (4 + 2) - 3 \times 5 + 7 \times (3 + 1)$

III) Simplify :

- $125 - [18 - \{28 \div 4 - (18 - 30 \div 5) \div 2\}]$
- $5[18 + \{3 + 4(5 - 2)\}]$
- $130 - [100 \div (2 \text{ of } 5) - \{8 - \overline{4 - 2}\}]$

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IV) Using divisibility tests, determine which of the following number are divisible by 2,3,4,5,6,8 and 9.

- a) 14560      b) 726352      c) 12159      d) 12150      e) 639210

V) Determine HCF of numbers given below by Prime factorization method.

- a) 36, 84      b) 34, 102      c) 27, 63

VI) Determine HCF of numbers given below by continued division method.

- a) 28, 36      b) 880, 1375      c) 255, 1620

VII) Determine LCM of

- a) 16, 24, 40      b) 18, 24, 32      c) 32, 56, 46

VIII) Write the numerical expression for each of the following using brackets :

- a) Nine subtracted from the product eight and seven.  
b) Seventy two divided by the sum of six and three.  
c) Four multiplied by the sum of two and five.

IX. 1) Express 71 as the sum of three odd primes.

2) Express 24 as the sum of twin Primes.

3) Find all Prime numbers between 70 and 90.

X. 1) Find the least number which when divided by 6, 15 and 18 leave remainder 5 in each case.

2) Find the least number which divided by 12, 16, 24 and 36 leave remainder 7 in each case

3) Find the greatest number which divides 1,628, 1,736 and 268 leaving remainders 8, 11 and 13 respectively.

4) Find the largest number which divides 146, 254 and 272 leaving a remainder 2 in each case.

5) Find the smallest 4 digit number which is divisible by 18, 24 and 32.

6) Write the smallest 5 – digit number and find its factors.

7) For each of the following pair of numbers, verify that

$$\text{LCM} \times \text{HCF} = \text{Product of the numbers.}$$

(i) 21, 28

(ii) 231 and 273

(iii) 36, 90



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### Whole Numbers

- 1) The smallest whole numbers is \_\_\_\_\_
- 2) The predecessor of 10049 is \_\_\_\_\_
- 3) The natural number whose predecessor does not exist is \_\_\_\_\_
- 4) The additive identity for whole numbers is \_\_\_\_\_
- 5)  $(7 + 8) + 3 = 7+(8+3)$  \_\_\_\_\_ property.
- 6) \_\_\_\_\_ is the successor of the biggest 3 digit number.
- 7) \_\_\_\_\_ is the identity for multiplication of whole numbers.
- 8) Division by zero is \_\_\_\_\_
- 9) \_\_\_\_\_ + 2417 = 2417
10.  $52 \times 18 = 18 \times (- + -)$
11. In a division sum, the dividend , divisor and quotient are the same . Which is that no  
\_\_\_\_\_
12.  $420 \times 132 - 420 \times 32 = 420 \times ( \quad )$
13.  $63 \times 106 = 63 ( \quad + \quad )$
14. The value of  $13 \div 0$  is \_\_\_\_\_
15. All natural numbers are whole numbers ( True/ False)
16. How many whole numbers are there up to 80 ?
17. Whole numbers are closed for division (True / False)
18. How many times does the digit 4 occur in the unit place in all the natural numbers up to 100?
19. Write the successor and predecessor of each of the following numbers :  
a) 7000            b) 1899            c) 40040            d) 69999            e) 64494            f) 3300301
20. Write the next 3 consecutive natural numbers :  
a) 410436    b) 48998            c) 73299
21. Find the following using number line :  
a)  $6 + 3$             b)  $12 - 5$             c)  $6 \times 2$             d)  $3 + 4$             e)  $4 - 1$             f)  $4 \times 3$
22. Find the following sum by suitable rearrangement :  
a)  $729 + 123 + 877 + 271$   
b)  $594729 + 550023 + 6912037 + 732981$   
c)  $14 + 438 + 486 + 162$   
d)  $2062 + 353 + 1438 + 547$

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23. Find the value of the following using properties of whole numbers.

a)  $786 \times 84 + 786 \times 16$

b)  $242 \times 102$

c)  $4 \times 821 \times 25$

d)  $741 \times 124 - 741 \times 24$

e)  $370 \times 6 + 370 \times 3 + 370$

f)  $998 \times 126$

24. The annual fee charged from a student of class VI in a school is SR135 and class VII is SR 165. If there are in all 235 students in class VI and VII. Find the total collection.

25. On dividing 43, 621 by a certain number, the quotient is 1,246 and the remainder is 11 . Find the divisor.

26. What is the smallest 4 – digit number that is exactly divisible by 21.

27. The product of two number is 118275 . If one of the number is 1425, Find the other ?

28. A dealer sold 155 radio set on Monday and 245 on Tuesday. If the cost of one radio set is Rs. 3050. What is the total amount is collected during these days.

Prepared by Mrs. Saira Nazar, VI – VIII Girls, IISR

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### Integers

1. Using number line find the following :

- i.  $-3+5$
- ii.  $-4+-3$
- iii.  **$5 + -2$**
- iv.  **$-5 + 3$**
- v.  $-3-(-2)$
- vi.  **$5 -(-2)$**
- vii.  $-4-(+1)$
- viii.  **$-7 + 4$**
- ix. ***3 more than***  $-5$
- x.  $-2$  more than  $-3$
- xi. ***-2 less than***  $-4$
- xii. ***3 less than***  $-2$
- xiii.  $-4$  less than  **$-1$**

2. Evaluate the following :

1.  **$-25 + 72$**
2.  $-75 + -32$
3.  $25 - 79$
4.  **$-32 - (-58)$**
5.  **$48 -(-92)$**
6.  **$-85 + 78$**
7.  $-95-99$
8.  $-105+105$
9.  $-28-108$
10.  $-203+702$
11.  $-405+(-208)$

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12.  $-300 - (-215)$
13.  $500 - 700$
14.  $-200 + 150$
15.  $-173 + -293$
16.  $-28 + 75 + -56 + -28$
17.  $-108 - (-210) - 408 + 709$
18.  $+739 - 710 - (-210) + (-80)$
19.  $709 + 483 - 1009 + (-403)$
20.  $208 - [-73 - (43 - 78)]$
21.  $513 - \{-89 - [58 - (7 - \overline{8 - 10})]\}$
22.  $-403 + [703 - (-48) + (-1085)]$
23.  $-4532 + -7351 + 1532$
24.  $728 - (-425) - 9285$
25.  $-58 + 98 - 40$
26.  $-403 - (-375) + 102$
27.  $-459 - 729 - (-358) + -2085$
28.  $-78 - (-532)$

2. Use '<' or '>' or '=' to fill the box to get the

1.  $-138$    $- (-138)$
2.  $-728$    $0$
3.  $-238$    $-347$
4.  $-41$    $-8$
5.  $32$    $-78$
6.  $-97$    $-79$
7.  $0$    $-79$
8.  $-438$    $-458$
9.  $48$    $408$

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3. Complete the blanks :

1.  $-28, -38, -48, \underline{\hspace{2cm}}, \underline{\hspace{2cm}}, \underline{\hspace{2cm}}$   
 $\underline{-287}, \underline{-277}, \underline{-267}, \underline{\hspace{2cm}}, \underline{\hspace{2cm}}, \underline{\hspace{2cm}}$

2.  $-589, -586, -583, \underline{\hspace{2cm}}, \underline{\hspace{2cm}}, \underline{\hspace{2cm}}$   
 $\underline{-13}, \underline{-8}, \underline{-3}, \underline{\hspace{2cm}}, \underline{\hspace{2cm}}, \underline{\hspace{2cm}}$  4.

Write the opposite of the following :

1. 739 above sea level.
2. Going 730m towards north
3. **- 413**
4. **+705**
5. **Depositing Rs 750.**

5. Fill up the blanks :

1. \_\_\_\_\_ is neither positive nor negative.
2. \_\_\_\_\_ is the smallest positive integer.
3. \_\_\_\_\_ is the greatest negative integer.
4. All positive integers are \_\_\_\_\_ than zero and negative integers.
5. All negative integers are \_\_\_\_\_ than zero and positive integers.
6.  $-8 + \underline{\hspace{2cm}} = 0$
7.  $-78 + \underline{\hspace{2cm}} = -68$
8.  $48 + \underline{\hspace{2cm}} = 0$
10.  $69 + \underline{\hspace{2cm}} = +56$
11.  $-32 + \underline{\hspace{2cm}} = -45$
12.  $+100 + \underline{\hspace{2cm}} = 80$
13.  $43 + -35 = \underline{\hspace{2cm}}$
14.  $43 - \underline{\hspace{2cm}} = 52$
15. \_\_\_\_\_  $- (-9) = 61$
16. \_\_\_\_\_  $+ -8 = 52$
17.  $-27 + \underline{\hspace{2cm}} = -35$
18.  $-48 - \underline{\hspace{2cm}} = 0$

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### Fractions

Q1. Fill in the blanks.

1. An improper fraction of  $8\frac{4}{9}$  is \_\_\_\_\_
2.  $\frac{7}{21} + \text{---} = \frac{12}{21}$
3. The equivalent fraction of  $\frac{3}{5}$  having numerator 24 is \_\_\_\_\_
4. Fractions with same denominators are called \_\_\_\_\_
5. Which is greater  $\frac{3}{8}$  or  $\frac{3}{5}$
6. What fraction of a day is 6 hours?
7. Is  $\frac{5}{9}$  equals to  $\frac{4}{5}$ ?
8. A fraction is said to be in the simplest (or lowest) form if its numerator and denominator have no common factor except \_\_\_\_\_.
9. In an improper fraction, the numerator is \_\_\_\_\_ than the denominator.
10. The simplest form of  $\frac{18}{36}$  is \_\_\_\_\_

Q2. Compare the following. [ <, >, = ]

1. a)  $\frac{8}{15} \square \frac{4}{15}$   
b)  $\frac{4}{7}$  and  $\frac{3}{8}$   
c)  $\frac{5}{8}$  and  $\frac{5}{7}$

2. Show  $\frac{3}{5}$ ,  $\frac{5}{5}$  and  $\frac{7}{5}$  on a number line.

Q3. Express as mixed fractions.

- a.  $\frac{17}{7}$
- b.  $\frac{38}{5}$

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c.  $\frac{19}{6}$

Q4. Express as improper fractions.

a.  $3\frac{2}{8}$

b.  $5\frac{7}{8}$

c.  $4\frac{1}{3}$

Q5. Find the equivalent fraction form.

a.  $\frac{66}{99}$

b.  $\frac{32}{48}$

c.  $\frac{21}{24}$

Q7. Find the equivalent fraction of  $\frac{7}{15}$  with numerator 35?

Q8. Find the equivalent fraction of  $\frac{45}{54}$  with numerator 5?

Q9. Write the natural numbers between 50 to 65 what fraction of them are prime numbers?

Q10. Solve.

a.  $\frac{5}{12} - \frac{3}{4}$

b.  $2\frac{1}{5} + 4\frac{3}{4}$

c.  $4\frac{4}{5} - 3\frac{7}{9}$

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d.  $\frac{1}{4} + \frac{1}{5} + \frac{1}{6}$

e.  $1 - \frac{3}{5}$

f.  $4 - \frac{1}{2}$

Q11. Raju had  $\frac{5}{9}$  of a cake. He gave  $\frac{2}{9}$  out of that to his sister. How much is left?

Q12. Meena bought  $2\frac{1}{4}$  kg of vegetables and Reena bought  $3\frac{1}{2}$  kg of vegetables. Find the total weight of vegetables bought by both of them.

Q11. Find the sum.

a)  $4\frac{1}{2} + \frac{1}{10} + 3\frac{1}{5}$

b)  $2\frac{1}{8} + 1\frac{1}{16} + \frac{3}{4}$

c)  $8\frac{4}{9} + 5\frac{1}{3}$

Q12. Subtract.

a)  $4\frac{5}{8} - 3\frac{3}{16}$

b)  $3\frac{1}{15} - 2\frac{1}{5}$

c) *subtract  $\frac{3}{4}$  from  $3\frac{1}{7}$*

d) *Subtract  $\frac{4}{9}$  from 6.*



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### Fractions

- I. Important Points.
1. Fraction whose Numerators are less than denominators are called Proper fractions.
  2. Fractions whose Numerators are greater than Denominators are called Improper fractions.
  3. If the Numerators of a fraction is less than Denominator the fraction is less than 1.
  4. If Numerator of a fraction is greater than denominator then the fraction is more than 1.
  5. If Numerator is equal to the Denominator then the fraction is equal to 1.
  6. A Fraction with numerator 1 is called UNIT FRACTION.
  7. The Fraction is said to be in the lowest term or in simplest form if the H.C.F. of its numerator and the denominator is 1.
  8. A group of fraction with the same denominator are called LIKE FRACTIONS.
  9. A group of fraction with the different denominators are called UNLIKE FRACTIONS.
  10. Different fractions represents the same part are called EQUIVALENT FRACTIONS.
  11. Proper fractions are always less than 1.
  12. Improper fractions are greater than or equal to 1.
  13. Of the two fractions with same numerator, the fraction with greater denominator is smaller.
  14. Of the two fractions with same denominator the fraction with greater numerator is greater.

II. Solve the following

(i)  $\frac{2}{7} = \frac{8}{\square}$  (ii)  $\frac{5}{8} = \frac{10}{\square}$

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(iii)  $\frac{3}{5} = \frac{8}{20}$  (iv)

$\frac{45}{60} = \frac{15}{\square}$

(v)  $\frac{18}{24} = \frac{\square}{4}$  (vi)

$\frac{2}{9} = \frac{\square}{63}$

(vii)  $\frac{15}{35} = \frac{\square}{7}$  (viii)

$\frac{4}{5} = \frac{\square}{140}$

(ix)  $\frac{8}{64} = \frac{\square}{8}$  (x)

$\frac{12}{72} = \frac{2}{\square}$

III. Reduce the following fractions in to simplest form.

(i)  $\frac{48}{60}$

(ii)  $\frac{150}{60}$

(iii)  $\frac{84}{98}$

(iv)  $\frac{12}{52}$

(v)  $\frac{7}{28}$

(vi)  $\frac{36}{24}$

(vii)  $\frac{112}{128}$

(viii)  $\frac{63}{189}$

(ix)  $\frac{90}{104}$

(x)  $\frac{72}{120}$

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IV. Find an equivalent fraction of

$$\frac{3}{5} \text{ having}$$

5

- (a) Denominator 20
- (b) Numerator 36
- (c) Denominator 75
- (d) Numerator 45
- (e) Denominators 125

V. Find an equivalent fraction of

$$\frac{16}{144} \text{ having}$$

144

- (a) numerator 2
- (b) denominator 72
- (c) numerator 4
- (d) numerator 1

VI. Change the following into improper fraction

(i)  $\frac{2}{5}$       (ii)  $\frac{2}{5}$       (iii)  $\frac{3}{7}$

(iv)  $\frac{5}{7}$       (v)  $\frac{18}{23}$       (vi)  $\frac{7}{9}$

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VII. Change the following into mixed number

(i)  $\frac{8}{3}$       (ii)  $\frac{16}{3}$       (iii)  $\frac{54}{7}$       (iv)  $\frac{209}{14}$

(v)  $\frac{67}{13}$       (vi)  $\frac{98}{23}$       (vii)  $\frac{145}{12}$       (viii)  $\frac{37}{9}$

VIII. Which of the following pair of fraction are equivalent?

(i)  $\frac{6}{13}$  and  $\frac{30}{65}$       (iv)  $\frac{4}{9}$  ,  $\frac{32}{72}$

(ii)  $\frac{16}{20}$  ,  $\frac{20}{35}$       (v)  $\frac{12}{44}$  ,  $\frac{21}{76}$

(iii)  $\frac{8}{15}$  ,  $\frac{40}{75}$       (vi)  $\frac{11}{17}$  ,  $\frac{55}{85}$

IX. Fill in the blanks by putting  $<$  ,  $>$  , a  $=$

(i)  $\frac{7}{11}$  -  $\frac{5}{11}$       (ii)  $\frac{17}{19}$  -  $\frac{9}{19}$

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(ii)  $\frac{3}{21} - \frac{21}{21}$       (iv)  $\frac{5}{8} - \frac{5}{16}$

(v)  $\frac{13}{20} - \frac{17}{20}$       (vi)  $\frac{18}{25} - \frac{18}{24}$

X. Arrange the following in Ascending and descending order.

(i)  $\frac{15}{14}$  ,  $\frac{15}{8}$  ,  $\frac{15}{19}$  ,  $\frac{15}{3}$

(ii)  $\frac{2}{17}$  ,  $\frac{15}{17}$  ,  $\frac{9}{17}$  ,  $\frac{13}{17}$

(iii)  $\frac{11}{9}$  ,  $\frac{23}{9}$  ,  $\frac{15}{9}$  ,  $\frac{7}{9}$

(iv)  $\frac{15}{23}$  ,  $\frac{25}{23}$  ,  $\frac{9}{23}$  ,  $\frac{16}{23}$

(v)  $\frac{17}{8}$  ,  $\frac{17}{16}$  ,  $\frac{17}{5}$  ,  $\frac{17}{11}$

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XI.

Solve

(i)  $\frac{1}{5} + \frac{3}{10}$       (ii)  $\frac{2}{4} + \frac{1}{6} + \frac{5}{12}$

(iii)  $\frac{3}{10} + \frac{1}{15}$       (iv)  $\frac{7}{15} + \frac{2}{5}$

(v)  $\frac{5}{6} + \frac{7}{12} + \frac{1}{9}$       (vi)  $\frac{9}{16} - \frac{5}{12}$

(vii)  $\frac{5}{14} - \frac{2}{7}$       (viii)  $\frac{5}{16} - \frac{5}{24}$

(ix)  $3 - \frac{4}{5}$       (x)  $\frac{5}{6} - \frac{7}{12}$       (xi)  $\frac{31}{15} - \frac{5}{6}$

XII.

Find the difference between.

(i)  $\frac{7}{15}$  and  $\frac{9}{10}$       (ii)  $\frac{2}{24}$  and  $\frac{15}{18}$

(iii)  $\frac{5}{18}$  and  $\frac{11}{12}$       (iv)  $\frac{2}{7}$  and  $\frac{5}{14}$

(v)  $\frac{13}{18}$  and  $\frac{7}{11}$       (vi)  $\frac{5}{12}$  and  $\frac{13}{15}$

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## VI – MATHS WORKSHEET

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### Playing With Numbers

#### I. Fill in the blanks

1. The value of  $6 \times 45 \div 9 + 3$  is -----.
2. The numerical expression for six multiplied by the sum of three and four is -----
3. The numerical expression for seven subtracted from the product of four and three is
4. Numerical expression for forty five divided by the difference of eight and three is
5. The number of factors of a number are ----- and multiples of a number are ----- .
6. Two consecutive odd prime numbers are known as ----- .
7. A set of three consecutive prime numbers differing by 2 is called a -----
8. Two numbers are said to be ----- if they do not have a common factor other than 1.
9. The smallest composite number is -----.
10. HCF of two prime numbers is ----- .
11. HCF of two consecutive even numbers is ----- .
12. LCM of two prime consecutive numbers is ----- .
13. LCM of two consecutive numbers is ----- .
14. ----- is neither a prime number nor a composite number.
15. A number for which sum of all its factors is equal to twice the number is called a -----

#### II.DO THE FOLLOWING

1. Find the value of a)  $63 \div (4+7)$  (b)  $17 + 24 \div 6 - 3$   
c)  $4 \times 3 - 20 \div 5 + 8$  (d)  $25 - 27 \div (6 + 3)$
2. Simplify:-  

—

a)  $35 + \{16 - 7 + (3+5)\}$  b)  $148 - [150 \div 3 \text{ of } 5 - \{20 - 9-3\}]$   
c)  $6 [24 + \{4 + 3(6 - 2)\}]$
3. Write all prime numbers between 1 and 50.
4. Express the following as the sum of twin primes a) 84 b) 36 c) 24 d) 42
5. Express the following as the sum of two odd primes a)36 b)68 c)24 d) 42
6. Using divisibility test check whether the following are divisible by 4 and 8.

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7. Test the divisibility by 6 a) 27840 b) 29400 c) 35684
8. In each of the following fill in the blank with the smallest digit to make it divisible by 3. a) 643 -5 b) 2134 -7 c) 39821-7
- 9) Fill in the blank with the smallest digit to make it divisible by 9.  
a) 563 – 3 b)1679 – 1 c)23 -523
10. Write the smallest 5 digit number and find its prime factors
11. Determine the HCF of the given numbers by prime factorisation method.  
a) 72, 120 b) 46, 78 c) 225, 350
12. The product of three consecutive numbers is always divisible by 6. Verify this statement with the help of some examples.
13. Determine the HCF by continued division method.  
a) 255, 1620 b) 880, 1375 c) 72, 126
14. Find the largest number which divides 226 and 311 leaving a remainder of 5 in each case.
15. For each of the following pairs of numbers verify that:  $LCM \times HCF = \text{Product of the numbers}$ . a) 231, 273 b) 104, 195 c) 36, 90
16. Find the smallest number which when divided by 15, 25 and 35 leaves a remainder 5 in each case.



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## VI – MATHS WORKSHEET

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### Decimals

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- 1) Express as rupees using decimals .
  - a) 640p
  - b) 29p
  - c) 4p
  - d) Rs25,50paise.
  - e) Rs 1,50p
- 2) Express as Kg using decimals.
  - a) 40g
  - b) 2kg 400g
  - c) 5g
  - d) 4312g
  - e) 804kg 60g
- 3) Express as meters using decimals :
  - a) 40cm
  - b) 200mm
  - c) 240cm
  - d) 3m 34cm
- 4) Express as km using decimals
  - a) 240km 120m
  - b) 4000m
  - c) 9999m
  - d) 4km20m
  - e) 22km8m
- 5) Find
  - a)  $420.20+21.02$
  - b)  $41+8.881$
  - c)  $0.2+2.1+2.01$
  - d)  $0.001+2+4.2$
  - e)  $12+24.2+3.24$
  - f)  $8.06-4.06$



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### Algebra

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D) Fill in the blanks :

1. Letters used to represent numbers are called \_\_\_\_\_
2. The literals whose value vary from problem to problem are called \_\_\_\_\_
3. Numerals whose value is fixed are called \_\_\_\_\_
4. The statement of equality which involves literals is called an \_\_\_\_\_
5. The value of the variable which satisfies the equation is called the \_to the equation.

II) Write the expression :

1. m increased by 8.
2. b decreased by 31.
3. Five items x increased by 5 gives 55.
4. Half of p subtracted from the sum of a and b.
5. Product of 7 and x divided by the difference of 7 and x.
6. Sum of p, q and r divided by the product of a and 5.
7. One fourth of the difference of x and y.
8. 4 subtracted from n, gives 36.
9. z minus twice x.
10. m taken away from 50, gives 15.

III) Identify the solution and show that other values do not satisfy

1.  $X+8=24$  ( $x=3, x=15, x=16, x=0$ )
2.  $4a=32$  ( $a=8, a=4, a=6, a=7$ )
3.  $y-9=29$  ( $y=20, y=38, y=37, y=39$ )
4.  $\frac{p}{5}=16$  ( $p=75, p=85, p=90, p=80$ )

IV) Solve :

1.  $X+11 = 30$
2.  $6a=24$
3.  $m-5=2$
4.  $\frac{x}{4}=2$

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$$5. \frac{x}{7} = 5$$

$$6. \frac{a}{9} = 4$$

$$7. 10n = 70$$

$$8. 16 = y + 10$$

$$9. t - 14 = 0$$

$$10. 4x = 32$$

$$11. 17 - p = 15$$

$$12. 23 - y = 0$$

Answers :

I) 1. Variables 2. Variables 3. Constants 4. Equation 5. Solution

II) 1.  $m+8$  2.  $b-31$  3.  $5x+5=55$  4.  $(a+b) - \frac{1}{2}p$

5.  $\frac{7x}{7-x}$  6.  $\frac{p+q+r}{5a}$  7.  $\frac{1}{4}(x-y)$  8.  $n-4=36$

9.  $z-2x$  10.  $50-m=15$

III) 1.  $x=16$  2.  $a=8$  3.  $y=38$  4.  $p=80$

IV) 1.  $x=19$  2.  $a=4$  3.  $m=7$  4.  $x=8$

5.  $x=35$  6.  $a=36$  7.  $n=7$  8.  $y=6$

9.  $t=14$  10.  $x=8$  11.  $p=2$  12.  $y=23$

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## VI – MATHS WORKSHEET

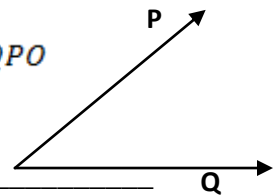
### Basic Geometrical Ideas

I) Fill in the blanks :

1. Circles having different radii but the same centre are called \_\_\_\_\_
2. Radius is \_\_\_\_\_ of the diameter.
3. The diameter of a circle is the \_\_\_\_\_ chord of the circle.
4. The Perimeter of a circle is called the \_\_\_\_\_.
5. A quadrilateral has \_\_\_\_\_ diagonals.
6. A triangle has \_\_\_\_\_ elements.
7. The interior of an angle together with the angle (boundary) itself is called the \_\_\_\_\_
8. In  $\triangle PQR$ , the side opposite to  $\angle P$  is \_\_\_\_\_
9. Length of a diameter is \_\_\_\_\_ the radius of a circle.
10. All the radii of a circle are \_\_\_\_\_

II) Choose the correct answer :

1. The centre of a circle [            ]
  - i) Lies in its interior
  - ii) lies in its exterior
  - ii) Lies on the circle
  - iv) none of these
2. In quadrilateral PQRS, the two diagonal are [            ]
  - i) PQ and RS
  - ii) PR and RS
  - iii) PS and PR
  - ii) PR and QS
3. In the figure, the angle can be named as
  - i)  $\angle OPQ$
  - ii)  $\angle POQ$
  - iii)  $\angle PQO$
  - iv)  $\angle QPO$



4. A line segment joining any two points on the circle is called a \_\_\_\_\_
  - (i) radius
  - (ii) diameter
  - (iii) chord
  - (iv) secant
5. A closed figure bounded by three or more segments is called a \_\_\_\_\_
  - Curve
  - (ii) Polygon
  - (iii) Circle
  - (iv) None of these
6. A line intersecting a circle at two different points is called a \_\_\_\_\_ of a circle.
  - (i) diameter
  - (ii) Radius
  - (iii) secant
  - (iv) centre

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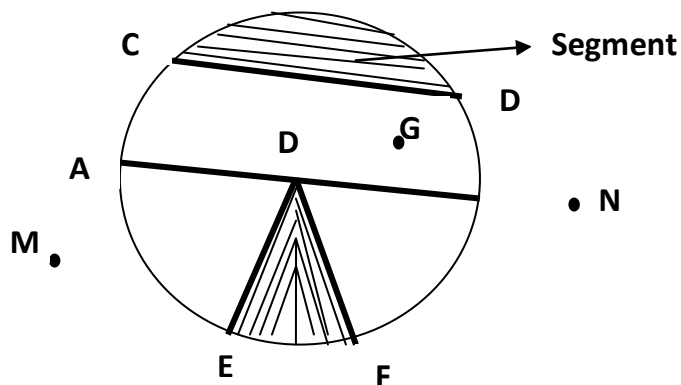
## VI – MATHS WORKSHEET

7. A closed figure formed by joining three non-collinear points is called  
 (i) a triangle      (ii) an angle      (iii) a curve      (iv) none of these
8. An Angle has  
 (i) One vertex and one arm  
 (ii) One vertex and two arms  
 (iii) Two vertex and two arms  
 (iv) None of these
9. A circle is  
 (i) a polygon      (ii) an open curve  
 (iii) a closed curve      (iv) none of these
10. A Point equidistant from all the Points on a circle is called the \_\_\_\_\_ of the circle.  
 (i) Centre      (ii) Radius      (iii) diameter      (iv) None of these

- III)      (i)  $\Delta RPQ, \Delta RSP, \Delta SPQ, \Delta SQR$        $\Delta SOP, \Delta POQ, \Delta ROQ, \Delta ROS$   
 (ii)  $\Delta ABC, \Delta ADE, \Delta EFC, \Delta DBF, \Delta DEF$   
 (iii)  $\Delta ABD, \Delta ADC, \Delta ABC$

2. a) Vertices : P, Q, R, S  
 b) Pair of opposite sides : PQ, SR    PS, QR  
 c) Angles :  $\angle P, \angle Q, \angle R, \angle S$   
 d) Pair of opposite angles : :  $\angle P$  &  $\angle R, \angle S$  &  $\angle Q$   
 e) Pair of adjacent angles :  $\angle PQ, \angle QR$     QR, RS  
 f) Diagonals : PR, SQ

3.



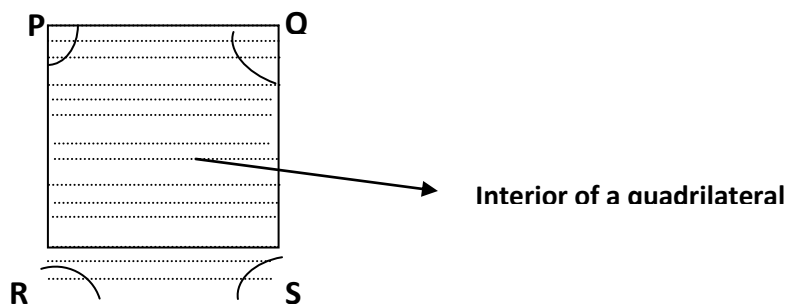
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## VI – MATHS WORKSHEET

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- i) Centre – O
- ii) A radius – OA, OB, OE, OF
- iii) A diameter – AB
- iv) A point in its interior – O, G
- v) A point in its exterior – M, N
- vi) A chord – CD
- vii) An arc -  $\overline{EFO}$
- viii) A segment
- ix) A sector
- x) A point on the circle : A, B, D, F

4 .



5.(i) U, M, r

(ii) p, q

(iii) A, B, C, t

6. (i) 8 Angles :  $\angle ABC, \angle BCA, \angle CAB, \angle ADC, \angle ACD, \angle CAD, \angle BAD, \angle BCD$

(ii) 3 Angles :  $\angle QPR, \angle PRQ, \angle PQR$

(iii) 4 Angles :  $\angle DAB, \angle ABC, \angle BCD, \angle CDA$

7) (i)  $\angle 1 = \angle ADC$     $\angle 2 = \angle AOD$     $\angle 3 = \angle DOB$     $\angle 4 = \angle BOC$

(ii)  $\angle 1 = \angle DAB$     $\angle 2 = \angle ABD$     $\angle 3 = \angle CBD$     $\angle 4 = \angle BCD$

$\angle 5 = \angle CDB$     $\angle 6 = \angle ADB$

(iii)  $\angle 1 = \angle ABC, \angle 2 = \angle BCD$

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## VI – MATHS WORKSHEET

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### Perimeter And Area

I) Fill in the blanks :

1. \_\_\_\_\_ is the distance around the figure.
2. Perimeter of a square \_\_\_\_\_.
3.  $\text{Perimeter} \div 4 = a$  \_\_\_\_\_ of a square.
4. Perimeter of a regular pentagon is 125cm. What is the length of the side?
5. Length of the rectangle = \_\_\_\_\_  $\div$  breadth.

II) Do as directed :

1. Find the perimeter of the following :
  - a. Rectangle whose  $l=5\text{cm}$  and  $b=4\text{cm}$ .
  - b. Square whose side = 15cm
  - c. A regular hexagon, side =7.2cm
  - d. Equilateral triangle , side =5cm
2. Find the side of the square whose perimeter is
  - a)22cm
  - b)16cm.
3. Shika runs around a square of side 75m. Priya runs around a rectangle with length 60m and breadth 45m. Who covers the small distance ?
4. The length of a rectangular field is 100m. If its perimeter is 300m. What is its breadth?
5. Find the cost of fencing a rectangular park of length 175m and breadth 125cm at the rate of Rs 12/cm.
6. The area of a rectangle is 240sq.cm. If its length is 20cm. Find its breadth.
7. A marble tile measures 25cm by 20cm. How many tiles will be required to cover a wall of size 4cm by 3cm ?
8. Find the perimeter of a rectangle whose area is 650 sq.cm and its breadth is 13cm.
9. The side of a square is 70cm. Find its area and perimeter.

Ans :

- I) 1. Perimeter 2.  $4 \times$  length of a side 3. a length of a side 4. 25cm 5. Area.
- II) 1. a) 18cm b)60cm c)36cm d)15cm 2. a) 5.5cm b)4cm 3 Priya covers the small distance.4. 50cm 5. Rs 7200 6. 12cm 7)240 tiles. 8. 126cm
9. Area : 4900sq.cm perimeter = 280cm



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## VI – MATHS WORKSHEET

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### Negative Numbers and Integers

1. Draw a number line and represent the integers 0, 2, +4, -3, -5 and 6
2. Write the absolute values of the following integers. 17, -8, 0, -16, 25 and -11
3. Write the additive inverse of the following integers. -17, 25, -101, 249, -2167 and 3190
4. Put > or < sign in the boxes.
  - i)  $(-7) + 12 - (-2)$    $(-6) - 11 + (-3)$
  - ii)  $5 - (-16) + (-4)$    $(-2) - (-7) + 6$
  - iii)  $(-15) - (-7) + 13$    $4 + (-12) - (-3)$
  - iv)  $7 - 5 + (-21)$    $6 - 18 + (-5)$
5. What should be added to the sum of (-26) and 31 to make it equal to the sum of (-35) and (-11)?
6. Which is greater? The sum of 72 and (-42) or the sum of (-65) and 96.  
By how much?
7. Subtract the sum of 32 and (-11) from the sum of 49 and (-53)
8. Evaluate :

i) $(-40) + (-21) + (-16)$	vi) $(-66) + (-22) + 45 - (-33)$
ii) $72 + (-16) + 40 + (-22)$	vii) $3000 + (-1000) - (-2000)$
iii) $63 + (-24) + (-23)$	viii) $28 + (-50) - (-41) + (-100)$
iv) $53 + (-42) - (-29) + (-11)$	ix) $(-1001) - (-450) + (-750)$
v) $(-100) + 47 + (-29) + 16$	x) $(-16) + (-12) - (-21) + (-30) + 40$
9. Write the next four integers of the following progressions:  
+5, +8, +11, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.  
-5, -9, -13, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.  
-15, -25, -35, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.  
-6, -3, 0, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.  
-12, -5, 2, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.
10. Write the following integers in ascending order:
  - i) -8, 11, 14, 0, -7, -3, -1 ii) 15, -12, -6, -5, 8, 2, 0

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## VI – MATHS WORKSHEET

### Ratio, Proportion And Unitary Method

1. Write the ratios in the simplest form:

- i) 15 minutes to one hour      viii) 2cm to 4 cm      xv) 750g to 3kg  
ii) 600g to 1 kg      ix) 4 days to 2 weeks      xvi) 8days to 6 weeks  
iii) 50p to Rs. 2.50      x) 3 yrs. To 6 months      xvii) 450ml to 3l  
iv) 2l to 800 ml      xi) 45 sec to 3 min      xviii) 8mm to 1cm  
v) 80cm to 4 m      xii) 45cm to 3m      xix) Rs. 1.50 to 25p  
vi) 3 km to 600m      xiii) 30 min to 4 hours      xx) 4 months to 4yrs  
vii) 3 dozen to 3 scores      xiv) Rs. 1500 to Rs. 18000      xxi) 294 : 343

2. Divide Rs. 1450 between A and B in the ratio 2 : 3

3. Dr. Suma earns Rs. 50,000 p.m. she spends Rs. 42,000 of it and saves the rest.

Find the ratio of

- i) Her expenditure to her income  
ii) Her saving to her income  
iii) Her expenditure to her savings

4. Fill in :

- i)  $3:5 = \underline{\quad} : 15$       v)  $6:7 = \underline{\quad}:49$       ix)  $5:30 = \underline{\quad}:6$   
ii)  $6: \underline{\quad} = 12:30$       vi)  $\underline{\quad}:5 = 20:25$       x)  $7: \underline{\quad} = 49:63$   
iii)  $\underline{\quad}:11 = 12:22$       vii)  $3: \underline{\quad} = 5:10$       xi)  $1:11 = 9: \underline{\quad}$   
iv)  $9:13 = 27: \underline{\quad}$       viii)  $45:15 = 3 : \underline{\quad}$       xii)  $\underline{\quad}:13 = 18:117$

5. Meena got Rs. 600 as her share from Rs. 2000. Tina got Rs. 750 as her share from Rs. 3000.

Express their shares as ratios in the lower terms. Compare and find who got more.

6. Fill in the blanks with  $>$ ,  $=$  or  $<$

- i)  $7:10 \underline{\quad} 5:10$       ii)  $6:7 \underline{\quad} 6:11$       iii)  $4: \underline{\quad} 5 \underline{\quad} 8:10$   
iv)  $9:13 \underline{\quad} 9:15$       V)  $11:20 \underline{\quad} 9:20$       VI)  $4:9 \underline{\quad} 12:27$

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## VI – MATHS WORKSHEET

7. The ratio of the length of a rectangle to its breadth is 3:2. If the perimeter of the rectangle is 20 cm find the length, breadth and area.
8. Fill in :
- i) 2:4 :: \_\_\_\_:10                      ii) \_\_\_\_:8 :: 1:4                      iii) 3:8 :: 15: \_\_\_\_
- iv) 1: \_\_\_\_ :: 3:15                      v) 9: \_\_\_\_ :: 90:100
9. The cost of 4 pens is Rs. 40. The cost of 11 pens is Rs. \_\_\_\_\_.
10. The weight of 15 boxes is 60 kg. The weight of 12 boxes is \_\_\_\_\_.
11. Maya can walk 6km in 2 hours. In 3 hours she can walk \_\_\_\_\_.
12. Dinner at Marhaba costs SR 1050 for 10 people. How many people can have dinner for SR 1995?
13. A car travels 95 km in 5 litres of petrol. How far can it go in 11 litres of petrol?

### Elementary Shapes

1. Given below are the lengths of the sides of triangles.  
Classify them as equilateral, isosceles or scalene
- i) 6cm, 2.4cm, 6cm                      ii) 7cm, 9cm, 5.5cm                      iii) 5.4cm, 7cm, 6.1cm
- iv) 7.2cm, 7.2cm, 7.2cm                      v) 10.1cm, 8.6cm, 8.6cm                      vi) 3.5cm, 4.5cm, 5.1cm
- vii) 4.8cm, 4.8cm, 4.8cm                      viii) 6.8cm 6.8cm, 8.6cm                      ix) 3cm, 4cm, 5cm
2. Draw a triangle ABC using a protactor, measure  $\angle A$ ,  $\angle B$  and  $\angle C$ .  
Find their sum. What do you notice. Also measure the sides AB, BC, AC.  
What kind of a triangle is this?
3. Given below are the measures of the angles of some triangles. Classify them  
As acute-angled, obtuse-angled or right-angled.
- i)  $60^\circ$ ,  $90^\circ$ ,  $30^\circ$                       ii)  $40^\circ$ ,  $100^\circ$ ,  $40^\circ$                       iii)  $60^\circ$ ,  $60^\circ$ ,  $60^\circ$
- iv)  $20^\circ$ ,  $40^\circ$ ,  $120^\circ$                       v)  $50^\circ$ ,  $60^\circ$ ,  $70^\circ$                       vi)  $45^\circ$ ,  $45^\circ$ ,  $90^\circ$
4. Draw a triangle ABC. Measure the sides AB, BC, AC  
Verify i)  $AB + BC > AC$     ii)  $BC + AC > AB$                       iii)  $AB + AC > BC$

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5. Write the number of sides of the following Polygons: Triangles, Pentagon, Quadrilateral, Heptagon, Hexagon, Nonagon, Octagon, Decagon.

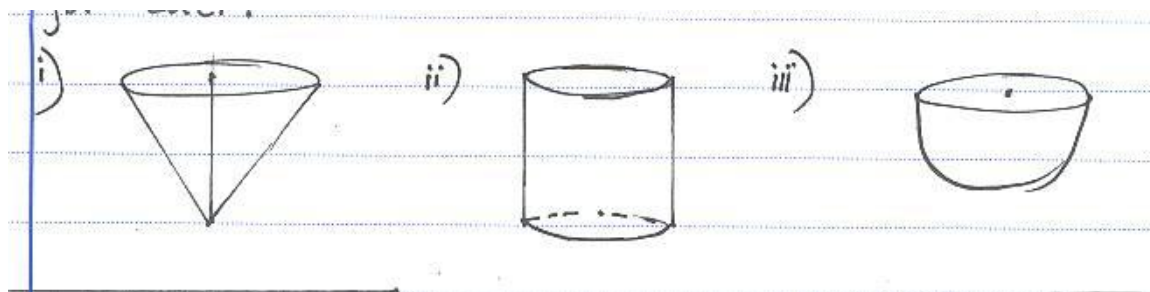
6. Fill in:

Number of			
Name of the Solid	Faces	Edges	Vertices
Cube			
Cuboid			
Square Pyramid			
Triangular Pyramid			
Triangular Prism			

7. Write yes or No

Quadrilateral	Opposite Sides		All Sides Equal	Opposite Angles Equal	All Angles Equal	Diagonals		
	Parallel	Equal				Equal	Perpendicular	Bisect each other
Trapezium								
Parallelogram								
Rhombus								
Rectangle								
Square								

8. Name each of the following 3 – D shapes. Write number of Curved Surfaces and no of flat faces.



### Symmetry

1. Look around and list any five things from your surroundings that are symmetrical
2. Write any 3 English alphabet, which are symmetrical and have
  - i) One axis of symmetry
  - ii) Two axes of symmetry

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## VI – MATHS WORKSHEET

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- iii) More than two axes of symmetry
3. Draw an angle of any measure. Using a ruler and protractor draw the line of symmetry (angle bisector).
4. Write the no. of axes of Symmetry of
- Square
  - Rectangle
  - Circle
  - Scalene Triangle
  - Equilateral Triangle
  - Rhombus

### Geometrical Constructions

- Construct the following angles using a ruler and compasses  
i)  $60^{\circ}$       ii)  $120^{\circ}$       iii)  $30^{\circ}$       iv)  $90^{\circ}$       v)  $45^{\circ}$
- Draw an angle of measure  $100^{\circ}$  using protractor. Draw an angle equal to this angle without using protractor. Draw the bisector of this angle.
- Draw a circle of radius 4cm. Inscribe a regular hexagon in it.
- Draw a line-segment AB of any length. Draw the perpendicular bisector of it.
- Draw a line ' $l$ '. Take a point P outside the line ' $l$ '. Draw a perpendicular line to ' $l$ ' from P.

### Perimeter And Area

- Which has greater perimeter? - a regular pentagon of 10 cm side or a rectangle with side 17 cm and 12 cm.
- A wire bent in the shape of a rectangle of sides 13.5 cm by 6.5 cm was straightened and re-bent into a square. Find the length of the side of the square.
- The cost of fencing a square field was Rs. 1380 @Rs. 15/m Find the side of the square field And hence find its area.
- A wire was bent to make a square of side 10.5 cm The same wire is re-bent to make a regular hexagon. Find the length of side of the hexagon.
- Area of a rectangle is  $24 \text{ cm}^2$ . If its length is 6cm find its width. Find the area of a Square whose perimeter is same as of this rectangle.

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## VI – MATHS WORKSHEET

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### Whole Numbers

Fill in the blanks :

- $25 \times 8 \times 125 \times 4 =$  \_\_\_\_\_
- $315 \times 105 = 315 \times 100 +$  \_\_\_\_\_  $\times 5$
- Division by zero is \_\_\_\_\_
- The whole number \_\_\_\_\_ has no number .
- The smallest natural number is \_\_\_\_\_.
- The sum of 3 odd numbers is \_\_\_\_\_.
- \_\_\_\_\_ is the additive identity for the whole numbers.
- $(7 \times 8) \times 5 = 7 \times (8 \times 5)$  This statement shows that multiplication of whole numbers is \_\_\_\_\_.
- How many numbers between 102 and 211.
- $3 + 7 = 7 + 3$  . This statement shows that addition of whole numbers is \_\_\_\_\_.
- Determining the product by suitable rearrangements
  - $2 \times 125 \times 50 \times 8$
  - $16 \times 279 \times 625$
  - $2 \times 1735 \times 50$
- Using distribution property, find each of the following products.
  - $213 \times 104$
  - $256 \times 1007$
  - $462 \times 38$
- Find the value :
  - $361 + 1482 + 639 + 518$
  - $409 + 386 + 3591 + 614$
  - $786 \times 97 + 786 \times 3$
  - $14 + 438 + 486 + 62$
  - $1252 \times 112 - 1252 \times 12$
  - $716 \times 6 + 716 \times 4$
  - $8062 \times 169 - 8062 \times 69$

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## VI – MATHS WORKSHEET

14. A teacher purchases 42 Mathematics books and 42 English books for his class. If the cost of a Mathematics book is Rs 52 and the cost of an English book is Rs48. Find the total amount paid by the teacher to the shopkeeper.

15. If the cost of a pack of mango drink is Rs.14. Then how many packs of the drink can be purchased for Rs.76 and what is the balance ?

### Knowing Our Numbers

1. Estimate using general rule :

(i)  $830 + 976$  (ii)  $496 - 215$  (iii)  $13,804 + 3,777$  (iv)  $61,292 - 21,496$

2. Estimate the products using general rule :

(i)  $758 \times 151$  (ii)  $4391 \times 2300$  (iii)  $2187 \times 456$  (iv)  $6978 \times 43$

3. Write the Roman Numeral for :

(i) 99 (ii) 48 (iii) 67 (iv) 81 (v) 17 (vi) 76 (viii) 54

4. Answer the following :

1. The town newspaper is published every day. One copy has 15 pages. Everyday 12,500 copies are printed. How many total pages are printed every day?

2. Apples are packed in boxes, each weighing 5kg 500gm. How many such boxes can be loaded in a van which cannot carry beyond 1000kg?

### Whole Numbers

Answer : 1)100000 2)315 3) not defined 4) zero 5) one 6) odd 7) zero

8) associate 9) 108 10) commutative

11)a) 100000 b) 2790000 c) 173500

14) 24200 15) 5, Balance Rs.6

### Knowing our numbers

Answers : I) (i) 1,800 (ii) 300 (iii) 18,000 (iv) 40,000

II) (i) 16,0000 (ii) 80,00,000 (iii) 10,00,000 (iv) 2,80,000

III) (i) XCIX (ii) XLVIII (iii) LXVII (iv) LXXXI (v) XVII (vi) LXXXI

(v) XVII (vi) LXXVI (vii) XCIII (viii) LIV

IV) (1) 1,87,500 pages (2) 181 boxes

# BRILLIANT PUBLIC SCHOOL, SITAMARHI

## VI – MATHS WORKSHEET

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### Understanding Elementary Shapes

D) Fill in the blanks :

1. An angle whose measure is greater than that of a right angle is \_\_\_\_\_.
2. Three edges meet at a point called a \_\_\_\_\_.
3. A \_\_\_\_\_ is larger than a straight angles.
4. A Polygon with 5 sides is called a \_\_\_\_\_.
5. A triangle having all three unequal sides is called a \_\_\_\_\_.

II) Write down the measure of

- a) Some acute angles.
- b) Some obtuse angles.
- c) What is the measure of a straight angle?

III) What shape is

- a) A brick.
- b) A match box
- c) A sweet laddu
- d) A ball
- e) A die
- f) A road roller

IV) Name the types of following triangles :

1.  $\triangle LMN$  with  $m \angle L = 80^\circ$ ,  $m \angle M = 70^\circ$ ,  $m \angle N = 30^\circ$ .
2.  $\triangle ABC$  with  $m \angle A = 90^\circ$ .
3.  $\triangle PQR$  such that  $PQ = QR = PR = 8\text{cm}$
4.  $\triangle XYZ$  with  $AB = 8\text{cm}$   $BC = 5\text{cm}$   $CA = 5\text{cm}$
5. Triangle with lengths of sides 7cm, 8cm and 9cm.
6.  $\triangle PQR$  with  $m \angle Q = 90^\circ$  and  $PQ=QR$ .

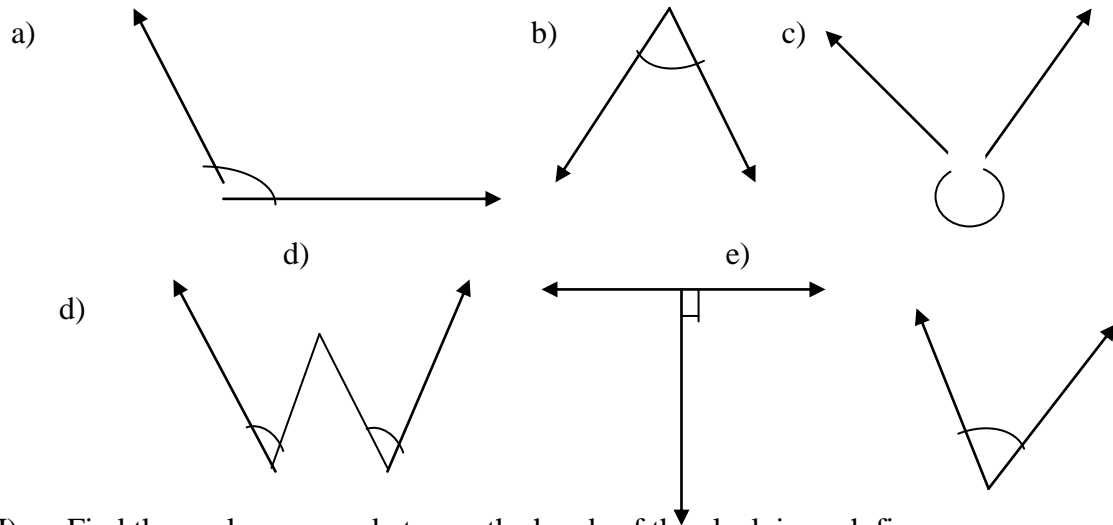
V) Let  $\overline{PQ}$  be the perpendicular to the line segment  $\overline{XY}$ . Let  $\overline{PQ}$  and  $\overline{XY}$  intersect in the point A. What is the measure of  $\angle PAY$ ?



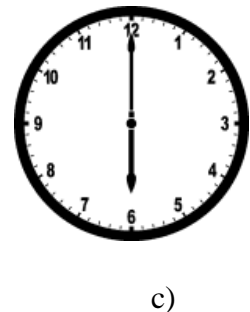
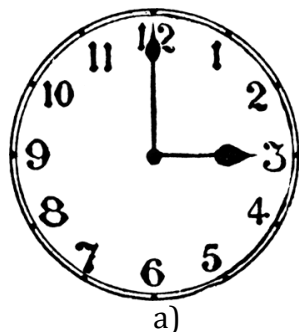
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## VI – MATHS WORKSHEET

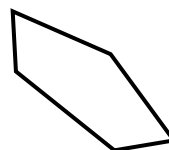
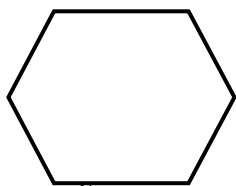
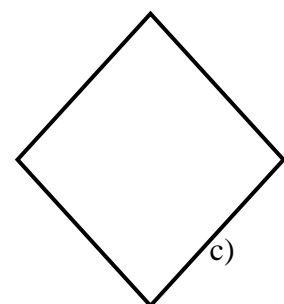
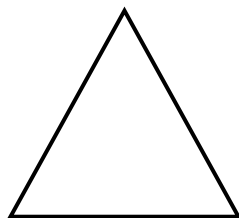
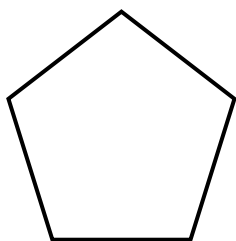
VI) Classify each one of the following angles as right ,straight , acute , obtuse or reflex.



VII) Find the angle measure between the hands of the clock in each figure



VIII) Name each polygon



- IX) 1. A cuboid has \_\_\_\_\_ faces.  
 2. Each face has \_\_\_\_\_ edges.  
 3. Each face has \_\_\_\_\_ vertices.

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Answers :

I) 1. Obtuse angle                      2. Vertex                      3. Reflex angle

4. Pentagon                      5. Scalene triangle    6.  $90^{\circ}$

III) a) cuboid    b) cuboid    c) sphere    d) sphere    e) cube    f) cylinder

IV) 1. Acute angled triangle                      2. Right angles triangle

3. Equilateral triangle.                      4. Isosceles triangle.

5. Scalene triangle                      6. Isosceles right angled triangle

VI) a) obtuse angle    b) Acute angle                      c) Reflex    d) Acute

e) Right                      f) Acute

VII) a) Right angle  $90^{\circ}$     b) Acute                      c) Straight angle  $180^{\circ}$

VIII) a) Pentagon    b) triangle    c) Quadrilateral    d) octagon    e) Pentagon

IX 1. 6 faces                      2. 4 edges    3. 4 edges

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## VI – MATHS WORKSHEET

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### Playing With Numbers]

Fill in the blanks:

- \_\_\_\_\_ is a factor of every number.
- The factor of a prime number is \_\_\_\_\_ and \_\_\_\_\_.
- A number which has more than two factor is called \_\_\_\_\_.
- The smallest perfect number is \_\_\_\_\_.
- If a number ends with 0, it is divisible by \_\_\_\_\_.
- The sum of all the factors of a perfect number is equal to \_\_\_\_\_ the number.
- \_\_\_\_\_ is neither prime nor composite.
- A number is divisible by 6, if it is divisible by both \_\_\_\_\_ and \_\_\_\_\_.
- The smallest even numbers is \_\_\_\_\_ and the smallest odd numbers is a \_\_\_\_\_.
- Sum of any two even numbers is \_\_\_\_\_.
- Sum of two odd numbers is \_\_\_\_\_.
- The only one even prime is \_\_\_\_\_.
- The greatest two digit prime number is \_\_\_\_\_.
- The smallest two digit prime numbers is \_\_\_\_\_.
- The difference between two twin prime is \_\_\_\_\_.
- A prime number has only \_\_\_\_\_ factors.
- \_\_\_\_\_ is the unique number.
- The smallest digit in the blank space of \_\_\_\_\_9853. So that the number so formed is divisible by 3.
- The L.C.M of two numbers in which one is a factor of the other is \_\_\_\_\_.
- The L.C.M of two co-prime numbers \_\_\_\_\_.
- The smallest factor of 856 is \_\_\_\_\_.
- The smallest multiple of 856 is \_\_\_\_\_.

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## VI – MATHS WORKSHEET

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23. The greatest factor of 856 is \_\_\_\_\_.
24. The perfect numbers below 100 are \_\_\_\_\_ and \_\_\_\_\_.
25. The smallest prime number is \_\_\_\_\_.
26. The smallest composite number is \_\_\_\_\_.
27. The smallest number having three different prime factors is \_\_\_\_\_.
28. The sum of any two consecutive odd numbers is always divisible by \_\_\_\_\_.
29. The product of three consecutive numbers is divisible by \_\_\_\_\_.

Do the following :

- Express the smallest 5 – digit number in the form of prime factor.
- Determine if 9130 is divisible by 110.
- Using divisibility test check whether the following are divisible by 2, 3, 4, 5, 6, 8, 9, 10 and 11  
(a) 91800      (b) 31956      (c) 81615      (d) 61042      (e) 48400  
(f) 99909
- Write all the twin primes below 100.
- Write all the prime numbers below 70.
- Find the smallest number when divided by 28, 40 and 44 leave a remainder 8 in each case.
- Write two prime numbers whose sum is 100.
- Write three pairs of prime numbers whose sum is an odd number.
- Find the smallest four digit number which is exactly divisible by 12, 16, 24 and 36.
- Write all the composite numbers between 30 and 50.
- The length , breadth and height of a room are 8m25cm, 6m75cm and 4m50cm respectively. Determine the longest tape which can measure the three dimension of the room exactly.

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## VI – MATHS WORKSHEET

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12. Telegraph pole occurs at equal distances of 220m along a road and heaps of stones are put at equal distances of 300m along the same road. The first heap is at the foot of the first pole. How far from it along the road is the next heap which lies at the foot of a pole.

Answers :

- 1) 1      2) 1 and number itself      3) composite      4) 6      5) 10, 2 and 5
- 6) twice    7) 1    8) 2 & 3    9) 2, 1    10) even    11) even    12) 2
- 13) 97    14) 11    15) 2    16) two    17) 1    18) 2
- 19) the greater number    20) their product    21) 856    22) 856
- 23) 6 and 28    24) 2    25) 4    26) 30    27) 4
- 28) 6

Do the following

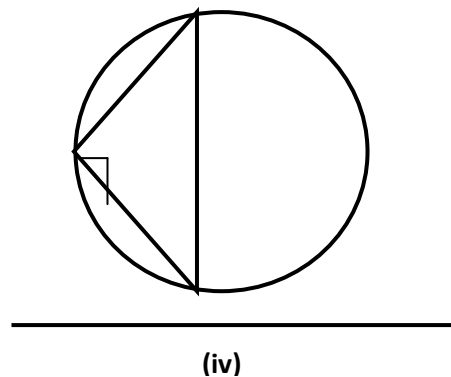
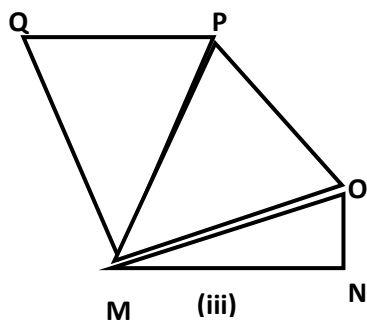
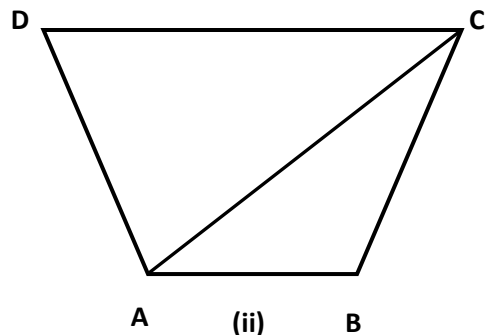
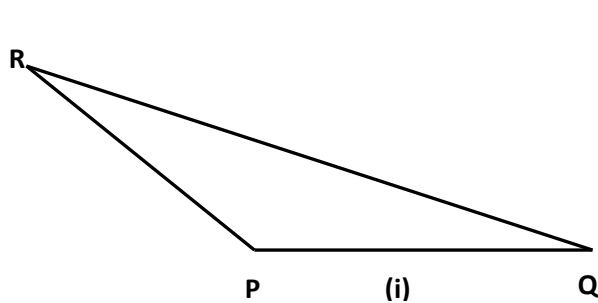
- $2 \times 2 \times 2 \times 2 \times 2 \times 5 \times 5 \times 5 \times 5 \times 5$
- Hint : Check the divisibility of 11 and 10.
- (3, 5), (5,7), (11,13), (17, 19), (29,31), (41, 43) .....
- 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97.
- Hint : Find the LCM add 8.
- $97 + 3 = 100$ ,  $89 + 11 = 100$
- (2,7), (2,11), (2,13).....
- 864
- 75cm
- 3300

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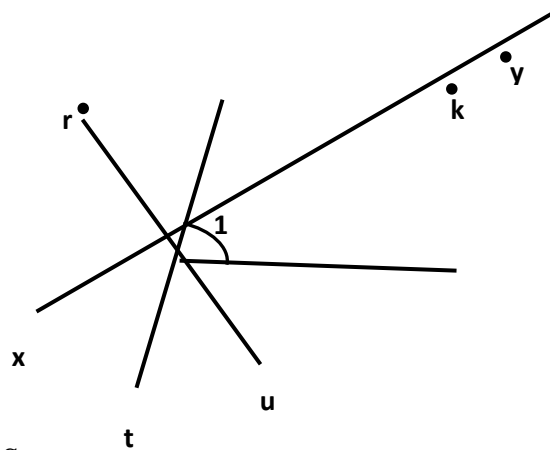
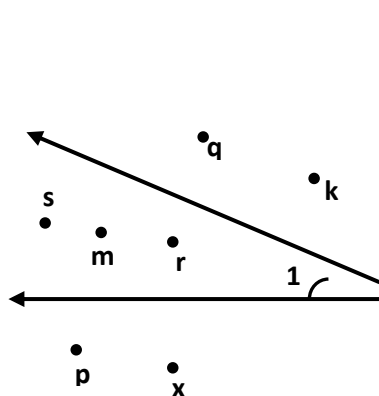
## VI – MATHS WORKSHEET

### Basic Geometrical Ideas]

- D) (a) Name all the different angles shown in the figures :  
 (b) Count the number of angles.  
 (c) List the acute angles  
 (d) List the obtuse angles  
 (e) Identify the right angles and straight angles.



- 2) List all the points which are in the exterior and interior of the given angle  $\angle 1$



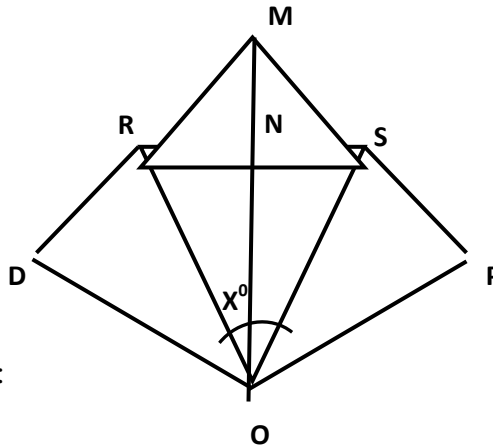
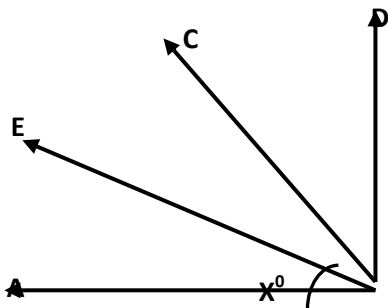
3. Draw a rough sketch of a quadrilateral PQRS state

- a) two pairs of opposite sides.  
 b) two pairs of opposite angles.

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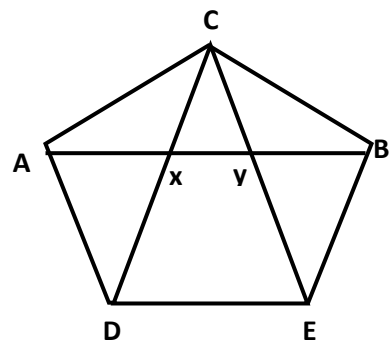
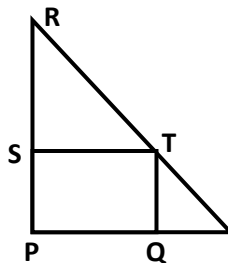
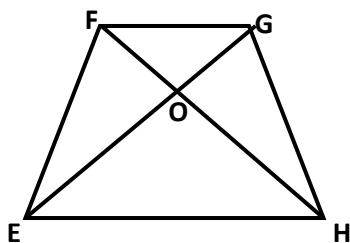
## VI – MATHS WORKSHEET

- c) four pairs of adjacent angles  
 d) four pairs of adjacent sides.  
 e) Draw the diagonals and name them.  
 4) Name the interior and exterior points of the angle marked  $x^\circ$  in the following:



5) a) Identify the triangles in the figure :

- b) Write the names of angles  
 c) Write the names of line segments.



- 6) Draw any circle and mark
- its centre
  - three radii
  - a diameter
  - shade a minor sector
  - colour a minor arc
  - a chord
  - two points in its interior
  - two points in its exterior
  - three points on the circle

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## VI – MATHS WORKSHEET

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### Integers

I Fill in the blanks:

1.  $-5 + (-11) =$  \_\_\_\_\_
2.  $8 + (-6) =$  \_\_\_\_\_
3.  $(-26) + (-37) =$  \_\_\_\_\_
4. Write the greatest negative integer \_\_\_\_\_
5. Write all integers between -30 and -20 \_\_\_\_\_
6. Find the sum of -45 and 30
7. Which is greater : -65 or -56 ?
8. Which integer is neither positive nor negative ?

II. Draw a number line and answer the following :

1. Which number will we reach if we move 4 numbers to the right of -2 ?
  2. If we are at -6 on the number line, in which direction should we move to reach -1 ?
  3. Using the number line write the integer
    - a) 4 less than -1
    - 2) 6 more than -6
  4. Use number line and add the following integers :
    - a)  $(-1) + (-8)$
    - b)  $(-1) + (-2) + (-4)$
    - c)  $-8 - (-10)$
  5. Fill in the blanks with  $>$ ,  $<$  or  $=$ 
    - a)  $54 - (-11)$  \_\_\_\_\_  $57 + (-4)$
    - b)  $(-35) - (-52)$  \_\_\_\_\_  $(-52) - (-35)$
  6. Find :
    - i)  $60 - (-20) - (+10)$
    - ii)  $(-15) + 12 - 9 + 1$
-



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## VI – MATHS WORKSHEET

### Fractions

1. What fraction of an hour is 30 minutes ?
2. Write the natural numbers from 5 to 15. What fraction of them are prime numbers?
3. Express as mixed fractions. a)  $\frac{30}{7}$       b)  $\frac{51}{9}$
4. Express as improper fractions. a)  $7\frac{3}{9}$       b)  $11\frac{1}{13}$
5. Find an equivalent fraction of  $\frac{56}{72}$  with denominator 18.
6. Simplify
  - i)  $\frac{21}{35}$
  - ii)  $\frac{34}{85}$
  - iii)  $\frac{75}{120}$
  - iv)  $\frac{66}{75}$
  - v)  $\frac{112}{128}$
  - vi)  $\frac{48}{57}$
7. Add
  - a)  $\frac{5}{12}$  and  $\frac{19}{24}$
  - b)  $\frac{3}{8}$ ,  $\frac{1}{2}$ , and  $\frac{5}{6}$
  - c)  $2\frac{5}{6}$  and  $8\frac{1}{4}$
8. The weight of two boxes together is  $5\frac{3}{4}$  kg. If one box weighs  $2\frac{5}{6}$  kg, Find the weight of the other.

### Mensuration

1. The length and breadth of a Rectangle are 11 cm and 9 cm. Find its area and Perimeter.
2. The area of a Rectangle is 144 sq cm and its length is 16 cm. Find the breadth of the Rectangle?
3. Find the perimeter of a regular hexagon of side x cm.
4. If the perimeter of a regular pentagon is 65 cm. Find its side ?
5. The perimeter of a triangle is 42 cm. If two of its sides are 16 cm and 12 cm. Find its third side?

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## VI – MATHS WORKSHEET

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6. A piece of string is 45 cm long. It is bent to form an equilateral triangle. Find the side of triangle.
  
7. An athlete takes 5 rounds of a rectangular park 120 m long and 80m wide. Find the total distance covered by him.
  
8. Find the area of a square whose perimeter is 260 cm.
  
9. The total cost of fencing a square park at Rs. 20 per metre is Rs. 2880. Find the side of the square park.
  
10. The floor of a room with dimensions 5 m and 3m is to be covered with square tiles. If each square tile is of side 25 cm. Find the number of tiles required.

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## VI – MATHS WORKSHEET

### Practical Geometry

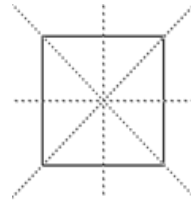
1. Draw a circle of radius 5.6cm
2. With the same centre O, draw two circles of radii 5cm and 2.5cm
3. Draw any circle and mark points P, Q and R such that
  - a) P is on the circle
  - b) Q is in the interior of the circle.
  - c) R is in the exterior of the circle.
4. Draw any line segment  $\overline{PQ}$ . Mark any point B on it. Through B, draw a perpendicular to  $\overline{PQ}$ .
5. Draw  $\overline{XY}$  of length 8.3cm and find its axis of symmetry.
6. Draw a line segment of length 10.5cm and construct its perpendicular bisector.
7. With  $\overline{AB}$  of length 6.2cm as diameter, draw a circle.
8. Draw a circle of radius 4.5cm. Draw any two of its chords. Construct the perpendicular bisectors of these chords. Where do they meet.
9. Draw a line segment of length 10.8cm. Using compasses, divide it into four equal parts . Verify by actual measurement.
10. Draw the perpendicular bisector of  $\overline{AB}$  whose length is 8.3cm
  - a) Take any point P on the bisector drawn. Examine whether  $PA = PB$
  - b) If M is the mid point of  $\overline{AB}$  , what can you say about the length of MA and MB?
11. Draw an angle of measure  $137^\circ$  and construct its bisector.
12. Draw a right angle and construct its bisector.
13. Draw an angle of measure  $152^\circ$  and divide into four equal parts
14. Draw an angle of measure  $60^\circ$  and bisect it.
15. Draw an angle of measure  $150^\circ$  and bisect it.
16. Construct with ruler and compasses, angles of following measures.
  - a)  $60^\circ$
  - b)  $120^\circ$
  - c)  $90^\circ$
  - d)  $45^\circ$
  - e)  $15^\circ$
  - f)  $30^\circ$

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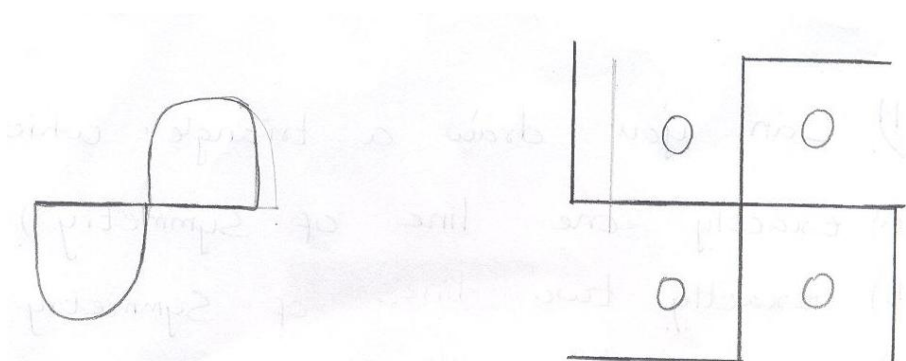
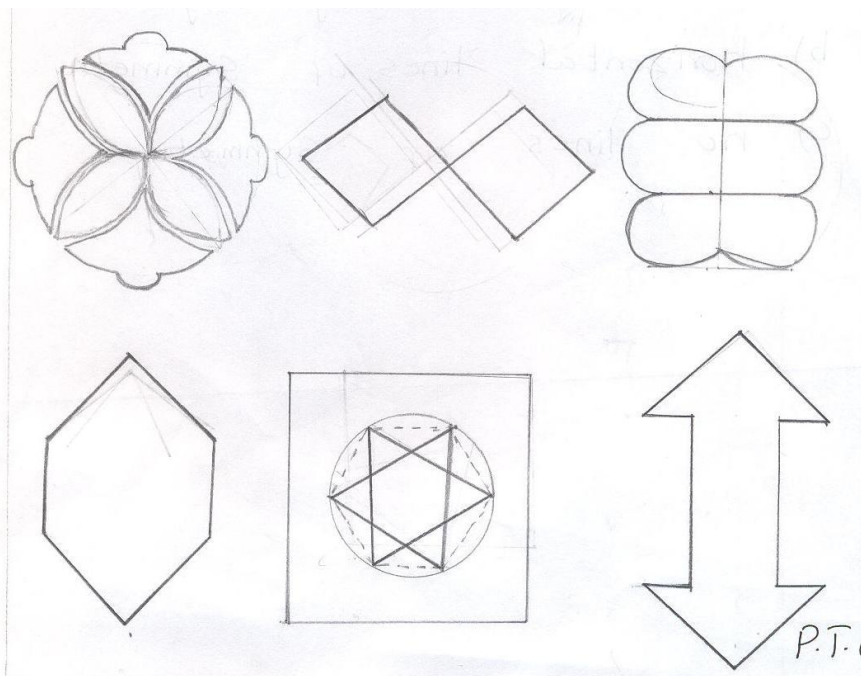
## VI – MATHS WORKSHEET

17. Draw a circle and any two of its diameter. What is the figure obtained ? What figure is obtained if the diameter are perpendicular to each other ?

Symmetry  
Asymmetry



- 1) Can you draw a triangle which has
  - a) exactly one line of symmetry
  - b) exactly two lines of symmetry ?
  - c) exactly three lines of symmetry ?
  - d) no lines of symmetry ?
- 2) Find the number of lines of symmetry in each of the following shapes ?



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## VI – MATHS WORKSHEET

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3) Consider the letters of English alphabets, A to Z.

List among them the letters which have

- a) Vertical lines of symmetry
- b) Horizontal lines of symmetry
- c) No lines of symmetry

4) Complete the following table :

Sl#	Shape	Rough Figure	Number of lines of symmetry
1.	Equilateral triangle		
2.	Square		
3.	Rectangle		
4.	Isosceles Triangle		
5.	Rhombus		
6.	Circles		
7.	Parallelogram		
8.	Scalene Triangle		

5) Write some application of symmetry in everyday life.