

INTERNATIONAL INDIAN SCHOOL, DAMMAM

MATHEMATICS WORKSHEET [2017 - '18]

CLASS - VIII

CHAPTER - 1 - RATIONAL NUMBERS

1. Find the additive inverse of the following :

(a) $\frac{-3}{11}$, (b) $\frac{2}{7}$, (c) 5.

2. Find the multiplicative inverse of the following :

(a) -2, (b) $\frac{-9}{11}$, (c) $\frac{5}{9}$.

3. Simplify $\frac{2}{7} \times \left\{ \frac{1}{4} + \frac{3}{8} \right\}$ using distributive property.

4. Multiply the additive inverse of $\frac{-3}{5}$ with the reciprocal of $\frac{6}{25}$.

5. Name the property under addition used in each of the following :

(a) $\frac{-3}{5} + \frac{5}{2} = \frac{5}{2} + \frac{-3}{5}$

(b) $-7 + 2 = 5$, an integer.

(c) $\frac{-7}{5} + 0 = 0 + \frac{-7}{5} = \frac{-7}{5}$

(d) $\frac{4}{9} + \left[\frac{3}{5} + \frac{-1}{7} \right] = \left[\frac{4}{9} + \frac{3}{5} \right] + \left(\frac{-1}{7} \right)$

6. Name the property under multiplication used in each of the following :

(a) $\frac{-13}{9} \times \frac{4}{7} = \frac{4}{7} \times \frac{-13}{9}$

(b) $13 \times 7 = 91$, an integer.

(c) $\frac{-7}{5} \times 1 = 1 \times \frac{-7}{5} = \frac{-7}{5}$

(d) $\frac{3}{7} \times \left[\frac{2}{5} \times \frac{4}{9} \right] = \left[\frac{3}{7} \times \frac{2}{5} \right] \times \frac{4}{9}$

7. Simplify using properties:

(a) $\frac{2}{5} \times \frac{1}{6} - \frac{1}{12} + \frac{2}{5} \times \frac{2}{3}$

(b) $\frac{1}{7} \times \frac{2}{9} - \frac{3}{14} \times \frac{1}{9} + \frac{2}{9} \times \frac{1}{14}$

(c) $\frac{6}{7} \times \frac{49}{18} - \frac{7}{3} \times \frac{1}{49} + \frac{6}{7} \times \frac{1}{18}$

(d) $\frac{4}{7} \times \frac{2}{5} + \frac{3}{7} \times \frac{2}{5} + \frac{2}{5} \times \frac{1}{7}$

8. Name :

(a) a positive number which is its own reciprocal.

(b) a negative number which is its own reciprocal.

(c) a number which has no reciprocal.

9. Represent the following rational numbers on a number line :

(a) $\frac{4}{7}, \frac{6}{7}, \frac{-3}{7}, \frac{-5}{7}$

(b) $\frac{1}{11}, \frac{5}{11}, \frac{-8}{11}, \frac{-9}{11}$.

10. Find four rational numbers between (-3) and (-1)

11. Find five rational numbers between $\frac{-1}{5}$ and $\frac{3}{8}$.

12. Find seven rational numbers between $\frac{1}{4}$ and $\frac{2}{3}$.

13. Write 10 rational numbers greater than (-4) .

14. Write five rational numbers less than 1.

15. Evaluate :

(a) $\frac{3}{5} + \frac{-9}{10} + \frac{-11}{15} + \frac{2}{25}$

(b) $(\frac{-3}{7}) \times \frac{2}{5} \times \frac{1}{9} \times \frac{15}{16}$

INTERNATIONAL INDIAN SCHOOL – DAMMAM
MATHEMATICS WORKSHEET - 2017 – '18
CLASS VIII – PLAYING WITH NUMBERS

Divisibility test :

A number is divisible by

- (i) 2 , if the one's digit of the number is 0,2,4,6 or 8.
- (ii) 3, if the sum of the digits is divisible by 3.
- (iii) 5 , if the one's digit is 0 or 5 .
- (iv) 10, if the one' s digit is 0 .
- (v) 9 , if the sum of the digits is divisible by 9

1. Check the divisibility of 39487362 by (a) 2 (b) 3 (c) 9
 2. What may be the values of y for which each of the following numbers is exactly divisible by 3? (y can have more than one value) (a) $6y07$ (b) $15y95$ (c) $5y228$
 3. Write the smallest value of x for which each of the following numbers are completely divisible by 9? (i) $23x$ (ii) $x543$ (iii) $5x29$ (iv) $3276x$
 4. If $3275p$ is a multiple of 5, where p is a digit , what could be the value of p?
 5. If $37x07$ is divisible by 9, find the value of x.
 6. Write down all possible three digit numbers using the digits 4, 9, 0, 5 without repetition. Which of these numbers are divisible by (i) 3 ? (ii) 5 ? (iii) 10 ?
 7. **State TRUE / FALSE**
 - a) 41392 is divisible by 9
 - b) 7524 is divisible by 2
 - c) 1233312 is divisible by 3
 - d) 5492735 is divisible by 10
 - e) 21420 is divisible by 5
 8. Check whether these numbers are divisible by (a) 5 (b) 10 ?
 - (i) 44130 (ii) 68235 (iii) 21867 (iv) 403200 (v) 7555
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INTERNATIONAL INDIAN SCHOOL, DAMMAM
MATHS WORKSHEET 2017 – 18
CLASS VIII DATA HANDLING

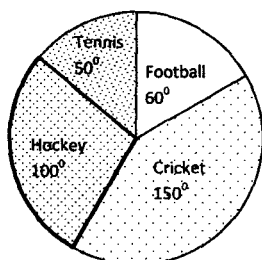
1. _____ gives the number of times that a particular entry occurs in a data.
2. A _____ is the graphical representation that shows the relationship between a whole and its part.
3. The difference between the upper class limit and the lower class limit is called _____ of the class interval.
4. A _____ is one whose outcome cannot be predicted exactly in advance.
5. The upper limit of the class interval 50 – 60 is _____
6. Width or size of class 100 – 150 is _____
7. List the outcomes.
 - a) Tossing a pair of coins.
 - b) Getting an odd number when a dice thrown.
8. Find the probability of :
 - a) Getting a card of spade from a pack of well-shuffled pack of cards.
 - b) A card drawn is a king.
9. The weights (in kg.) of 50 students are given below.

60	41	30	53	59	54	43	70	69	56	43	55	39	63	41	51	32
53	47	78	40	54	52	46	55	58	38	51	42	59	68	45	33	49
77	47	37	30	48	44	53	66	35	79	58	61	49	49	50	51	

- a) Make a frequency distribution table with class interval of size 10.
 - b) Make a histogram to represent the data.
10. Draw a histogram for the following grouped frequency distribution table.

Marks	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50
No of Students	2	10	21	19	8

- a) How many students got marks 30 and above?
 - b) If the passing mark is 20, how many students failed?
11. The pie-chart given below shows the amount spent by a sports club in a year, on four different sports



- a) If the club spends a total of Rs. 1,08,000 in a year, find the amount spent in each sport?
- b) On which sport item the expenditure is maximum?
- c) If the club spent Rs. 20,000 on hockey in a year, find the total amount spent by the club on sports in a year?

12. The numbers of students admitted to different departments of a college are given below.

Science	Arts	Commerce	Law	Comp. Sc.
320	560	320	160	240

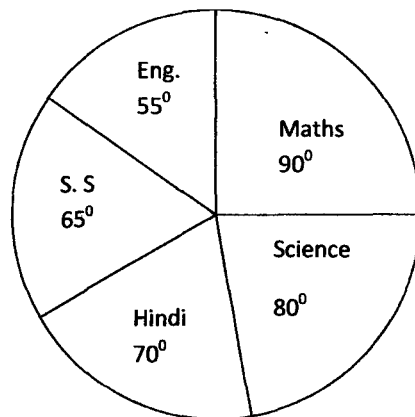
Draw a pie-diagram for the data.

13. The following data shows the expenditure pattern in a family. Dra a pie-chart.

Items	Food	Clothing	Rent	Education	Health	Miscellaneous
Expenditure (in percent)	40%	20%	10%	10%	5%	15%

14. A bag contains 4 red, 5 black and 6 white balls. A ball is drawn from the bag at random. Find the probability that the ball drawn is
- a) White
 - b) red
 - c) not black
 - d) red or white

15. The following pie-chard gives the marks scored in an examination by a student in various subjects. If the total marks obtained by the student were 540, answer the following questions.



- a) In which subject did the student score 105 marks?
- b) How many more marks were obtained by the student in Mathematics than in Hindi?
- c) Examine whether the sum of marks obtained in Social science and Mathematics is more than that in Science and Hindi.

INTERNATIONAL INDIAN SCHOOL, DAMAMM**MATHEMATICS WORKSHEET (2017-18)****CLASS:VIII****CH: LINEAR EQUATIONS IN ONE VARIABLE****Solve the following equations**

1. $3x-5(2x+7)=3(4x-1)+\frac{5}{2}$

Ans: $(x=-\frac{69}{38})$

2. $\frac{3x-4}{4}=8$

Ans: $(x=12)$

3. $\frac{x}{4}-\frac{1}{3}=\frac{1}{4}-\frac{x}{10}$

Ans: $(x=5/3)$

4. $\frac{2x}{5}=\frac{8}{7}$

Ans: $(x=20/7)$

5. $2(x+3)=8-3(x-4)$

Ans: $(x=14/5)$

6. $\frac{2-x}{x-5}=\frac{3}{7}$

Ans: $(x=\frac{29}{10})$

7. $\frac{4x-3}{2x+1}=\frac{6x-4}{3x+2}$

Ans: $(x=2)$

8. The sum of three consecutive odd numbers is 87. Find the numbers.

(Ans:27,29,31)

9. The sum of the digits of a two digit number is 13. The number formed by interchanging the digits is 45 more than the original number. Find the original number. (ans:49)

10. The denominator of a fraction is 4 more than the numerator. If the numerator is increased by 2 and the denominator is increased by 5, the fraction is $\frac{5}{12}$. (Ans:3/7)

11. Sixteen years from now Gopi's age will be five times his present age. What is his present age? (ans:4 years)

12. Three times a number decreased by 5 gives the result 16. Find the number.
(Ans: 7)
13. A number is added to the $\frac{2}{5}$ th of itself. If the sum is 140, find the number
(Ans: 100)
14. The present age of the father is twice the present age of his son. 8 years later their ages will be in the ratio 7:4. Find the present age of the son.
(Ans: 24 years)
15. The perimeter of a rectangle is 9 times its breadth and its length is 3cm more than twice its breadth. Find the dimensions of the rectangle.
(Ans: $l=7\text{cm}$, $b=2\text{cm}$)
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INTERNATIONAL INDIAN SCHOOL, DAMMAM
 MATHEMATICS WORKSHEET (2017-18), GRADE: VIII

ALGEBRAIC EXPRESSIONS AND IDENTITIES

1. Classify the following expressions as monomial, binomial, trinomial and polynomial.

$3x+2y$, $5y^2$, $6pq-9q+10$, $12m^2-9mn+10n^2-15$, $21pq$, $5a-2b$, $7k-4m+9k+17$,
 $35xyz$, $28a^2b-31ab^2$, $5c+10d-20$, $11k^3+13k^2-17k-19$, $23pqr$

2. Identify terms and coefficients of each term of the expression: $11a^2b-9ab^2+7ab+12a-1$

3. Add the following:

- a) $10-7x^2$ and $8x^2-3x-10$
 b) $4m(m+n)$, $2m(n-2m)$ and $m(m+2n)$
 c) $5pqr^2+7pq^2r+25$ and $5pqr(2r+q-3)$
 d) $a(a-3)$, $a^2(a+2)$ and $2a(a-5)$

4. Subtract the following:

- a) $2l(3m+2n)$ from $2m(2l+2n)$
 b) $7a^2-5b+1$ from $15a^2+8b-1$
 c) $5a(a+5)$ from $a(3+a)-a^2(a-2)$
 d) $11p(7q+5r)$ from $4q(8p+9r)$

5. The adjacent sides of a rectangle are $3x-2y+6$ and $-5x+7y+2$. Find its perimeter.

6. The length, breadth and height of a cuboidal box are $3l$, $5l^2$ and $7l^3$ respectively. Find its Volume.

7. Find the area of a triangle whose base and altitude are $11a$ and $2a-3b$ respectively.

8. What must be subtracted from $10a^2-15ab+3b+1$ to get $3a^2-2ab+b+5$

9. Find the product :

- a) $a^2 \times b^2 \times (ab)^2 \times (ab)^3$

b) $-5p^2$ and $3pq + q^2$

c) $-xy$, $-x^2y^2$ and $2x^2y^2$

d) $5c + 3d$ and $3c + 5d$

e) $7m^2n^2$ and $6m^2 - 2mn - 3n^2$

10. Simplify the following expressions and find their values.

a) $3a(a-b) - 2b(b-a)$ when $a = 2$ and $b = -1$

b) $(a+b)(b-a) + (a-b)(a+b)$ when $a = -2$ and $b = 1$

c) $(p+q)(2p+q) + (p+2q)(p-q)$ when $p = 3$ and $q = 2$

11. Simplify:

a) $(l^2 + m^2)(l - m)$

b) $(a+b+c)(a+b) - (a-b)(a+b-c)$

c) $(y+1)(x^2+2y) - (y+1)(x^2+3y-2)$

d) $(k^2+3)(k^2-3)+9$

12. Using Identities evaluate the following:

a) 102×103

b) 98×97

c) 105^2

d) 5.2×4.8

e) $82^2 - 18^2$

f) 10.6×9.4

g) 997^2

h) 103×97

13. From the sum of $8a + 7b$ and $6a^2 - 4ab + 2b^2$, subtract the sum of $4a^2 + 3a + 2b$ and

$2a(a-2b) + 1$

14. The side of a square is $2x + 3y$ cm. Find its area.

INTERNATIONAL INDIAN SCHOOL, DAMMAM**MATHS WORKSHEET (2017-18)GMS****GRADE -8****CHAPTER 14:- FACTORISATION**

1) Factorise the following expressions: -

(a) $5xy - 15x^2y^2$

(b) $ap^2 + bq^2 + aq^2 + bp^2$

(c) $x^2 + xy + 8x + 8y$

(d) $9r(z + 1) + 3r(z + 1)$

(e) $z - 7 + 7xy - xyz$

(f) $(2m - 5)(3a - 2b) - (2m - 5)(2b - 3a)$

2) Factorise the following expressions

(a) $9x^2y^2 - 25$

(b) $4(x + y)^2 - x^2$

(c) $36(a + b)^2 - 16(a - b)^2$

(d) $3z^5 - 27z^3$

(e) $z^2 + 6xz + 9x^2$

(f) $x^2y^2 - 6xyz + 9z^2$

3) Find and correct the errors in the statement:

$$(4x + 2)^2 = 2x^2 + 16x + 4$$

4) Find and correct the errors in the statement: $(z - 1)^2 = z^2 - 1$

5) Carry out the following divisions.

(a) $28x^4 \div 56x$

(b) $-36y^3 \div 9y^2$

(c) $66pq^2r^3 \div 11qr^2$

(d) $34x^3y^3z^3 \div 51xy^2z^3$

(e) $12a^8b^8 \div (-6a^6b^4)$

6) Divide as directed.

(a) $5(x + 1)(2x + 5) \div (2x + 5)$

(b) $39x(x + 5)(y - 2) \div 13x(y - 2)$

(c) $12pq(p + q)(q + r)(r + p) \div 6pq(q + r)(r + p)$

(d) $60(y - 4)(y^2 + 5y + 3) \div 5(y - 4)$

(e) $x(x + 1)(x - 2)(x + 3) \div x(x - 2)$

7) Is $(a - 1)(b - 1)$ the factorisation of $(ab - a - b + 1)$ or $(ab - a + b - 1)$?