

KENDRIYA VIDYALAYA IIT CHENNAI

Std:6

HOLIDAY HOMEWORK – MATHEMATICS

Fill in the blanks:

- 1) Mixed fraction = _____
- 2) Fractions with same denominators are called _____.
- 3) $\frac{1}{2}$ and $\frac{2}{4}$ are _____ fractions.
- 4) $5\frac{2}{4}$ is _____ fraction.
- 5) $\frac{8}{15} + \frac{6}{15} =$ _____.

Match the following:

- a) Improper fraction
- b) $\frac{5}{10} - \frac{4}{10}$
- c) $\frac{4}{4}$ and $\frac{5}{5}$ are
- d) The fraction of shaded portion



- e) The simplest form of $\frac{7}{28}$

$\frac{1}{10}$

(Whole \times Denominator) + Numerator/Denominator

$\frac{1}{4}$

Equivalent fraction

$\frac{1}{5}$

Answer the following questions:

- 1) Draw the lines and locate the points on them.
 - i) $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$, $\frac{4}{4}$
- ii) $\frac{1}{7}$, $\frac{3}{7}$, $\frac{4}{7}$, $\frac{5}{7}$

2) Express the following as mixed fraction:

- i) $\frac{17}{7}$
- ii) $\frac{52}{8}$

3) Express the following as improper fractions:

- i) $6\frac{5}{7}$
- ii) $2\frac{5}{6}$

4) Reduce the following fractions to the simplest form:

- i) $\frac{28}{4}$
- ii) $\frac{84}{98}$

5) Latha read 30 pages of a book containing 100 pages. Lalitha read 40 pages of the same book. Who read less?

6) Solve:- $\frac{3}{10} + \frac{5}{15}$

7) Solve:- $\frac{1}{2} + \frac{1}{3} + \frac{1}{6}$

8) Add:- $2\frac{4}{5} + 3\frac{5}{6}$

9) Find the equivalent fraction of $15/35$ with denominator 7

10) Show $2/6$, $4/6$, $8/6$, $6/6$ on the number line.

11) Put appropriate sign between the fractions($>$, $=$, $<$)

i. $5/6$ $2/$

ii. $3/6$ $0/6$

iii. $1/6$ $6/6$

iv. $8/6$ $5/6$

12) Learn and write multiplication tables from 6 to 16 (5 times).

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CLASS VII

SUB: MATHEMATICS HOLIDAY HOMEWORK

1. FILL IN THE BLANKS

A] Ratio of 15kg to 210g is -----

B] 35% + ----- % = 100%

C] $\frac{\text{Amount of Change}(\text{increase or decrease})}{\text{Original amount}} \times 100\% = \text{-----}$

D] Simple interest: I = -----

E] Loss percent = -----

2. MATCH THE FOLLOWING

A] $\frac{9}{100}$ - $33\frac{1}{3}\%$

B] The percentage of $\frac{1}{3}$ - 0.09

C] Amount - $\frac{\text{Profit}}{\text{CP}} \times 100\%$

D] Profit percent - no loss or no profit

E] CP = SP - principal + interest

3. ANSWER THE FOLLOWING QUESTIONS

A] Out of 25 children in class, 15 are girls ,what is the percentage of girls ?

B] Convert the given fraction into numbers to percent

1] $\frac{5}{4}$

2] $\frac{3}{40}$

C] Find 20% of Rs.2500

D] Find the whole quantity if 12% of it's Rs.1080

E] In city 30% are females, 40% are males and remaining are children , what percent of children?

F] Meeta saves Rs. 400 from her salary if this is 10% of her salary. What is her salary?

G] what is the profit or loss in the following transactions. Also find profit percent or loss percent? A refrigerator bought for Rs. 12000 and sold at Rs. 13500.

H] I buy a T.V for Rs. 10000 and sell it at a profit of 20%. How much money do I get for it?

I] Find the amount to be paid at the end of 3 in years if principal = Rs. 12000 at 12%p.a.?

J] Manohar pays an interest of Rs. 750 for 2 years on sum of Rs. 4500 find the rate of interest?

4. Learn and write multiplication tables from 6 to 16 [5 times].

*****HAPPY HOLIDAYS*****

Algebraic Expressions And Identities

(i) Learn and memorize the following identities (write 2 times)

(a) $(a+b)^2 = a^2 + 2ab + b^2$

(b) $(a-b)^2 = a^2 - 2ab + b^2$

(c) $(a+b)(a-b) = a^2 - b^2$

(d) $(x+a)(x+b) = x^2 + (a+b)x + ab$

(e) $(x+a)(x-b) = x^2 + (a-b)x - ab$

(f) $(x-a)(x+b) = x^2 - (a-b)x - ab$

(g) $(x-a)(x-b) = x^2 - (a+b)x + ab$

(h) $(a+b)^3 = a^3 + b^3 + 3ab(a+b)$ (or)

(i) $(a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$

(j) $(a-b)^3 = a^3 - b^3 - 3ab(a-b)$ (or)

(k) $(a-b)^3 = a^3 - 3a^2b + 3ab^2 - b^3$

(l) $a^3 + b^3 = (a+b)(a^2 - ab + b^2)$ (or)

(m) $a^3 + b^3 = (a+b)^3 - 3ab(a+b)$

(n) $a^3 - b^3 = (a-b)(a^2 + ab + b^2)$ (or)

(o) $a^3 - b^3 = (a-b)^3 + 3ab(a-b)$

(p) $(a+b+c)^2 = a^2 + b^2 + c^2 + 2ab + 2bc + 2ca$

(ii) (a) If 'x' is a variable and m,n are positive integers, then

$$(x^m \times x^n) = x^{m+n} \text{ for ex: } x^2 \times x^4 = x^{(2+4)} = x^6$$

(b) If 'x' is a variable and m,n are positive integers, then

$$m > n \text{ then } (x^m \div x^n) = x^{m-n} \text{ for ex: } x^8 \div x^3 = x^{(8-3)} = x^5$$

(c) product of two monomials = (product of their coefficients) X (product of their variables)

(d) quotient of two monomials = (quotient of their coefficients) X (quotient of their variables).

- (iii) 1. Identify the terms, their coefficients for each of the following expression : $1, 5xyz^2 - 3zy^2, 1+x+x^3$
2. Add
- ,1, $a-b+ab, b-c+bc, c-a+ac$.
 - ,2, subtract $4a-7ab+3b+12$ from $12a-9ab +5b -3$
 - ,3, find the product of $-4p$ and $7pq$
 - ,4, a) using identities evaluate : 61^2 .
b) using $a^2 - b^2 = (a+b)(a-b)$, find 51^2-49^2
 - ,5, Find the product of a) $(4x +5) (4x-1)$
b) $(-3x^2y) \times (4x^2y - 3xy^2 + 4x - 5y)$
 - ,6, Find the product: $(\frac{-10}{3} pq^3) \times (\frac{6}{5} p^3q)$
 - ,7, Simplify $a(a^2+a+1) + 5$ and find its value for a) $a=0$
b) $a=1$ c) $a=-1$.
 - ,8, Simplify: $(a+b) (a-2b+3c) - (2a-3b) c$.
 - ,9, The length and breadth of a rectangle are $(3x^2 -2)$ and $(2x +5)$ respectively, then find its area.
 - ,10, Find the volume of cuboid whose dimensions are $(x^2-2), (2x+2)$ and $(x-1)$.
- (iv) Lean and write multiplication tables from 6 to 16 (5 times)
- (v) Write a brief history of 2 indian mathematicians and their contributions.

-----HAPPY HOLIDAYS-----

IX Class

Holiday Home Work

K.V.IIT

I:PROJECT WORK(ANY TWO -A4 SHEET)

1. History of π
2. Vedic mathematics-short cuts
3. History of mathematics

II: MULTIPLICATION TABLES 6 -16(TWICE-COMPULSORY)

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X Class

Holiday Home Work

K.V.IIT

I:PROJECT WORK(ANY TWO -A4 SHEET)

1. Indian mathematicians and their contributions
2. Vedic mathematics -short cuts
3. Golden rectangle and golden ratio

II: MULTIPLICATION TABLES 6 -16(TWICE-COMPULSORY)