District Public School & College,Depalpur

E-Learning Project

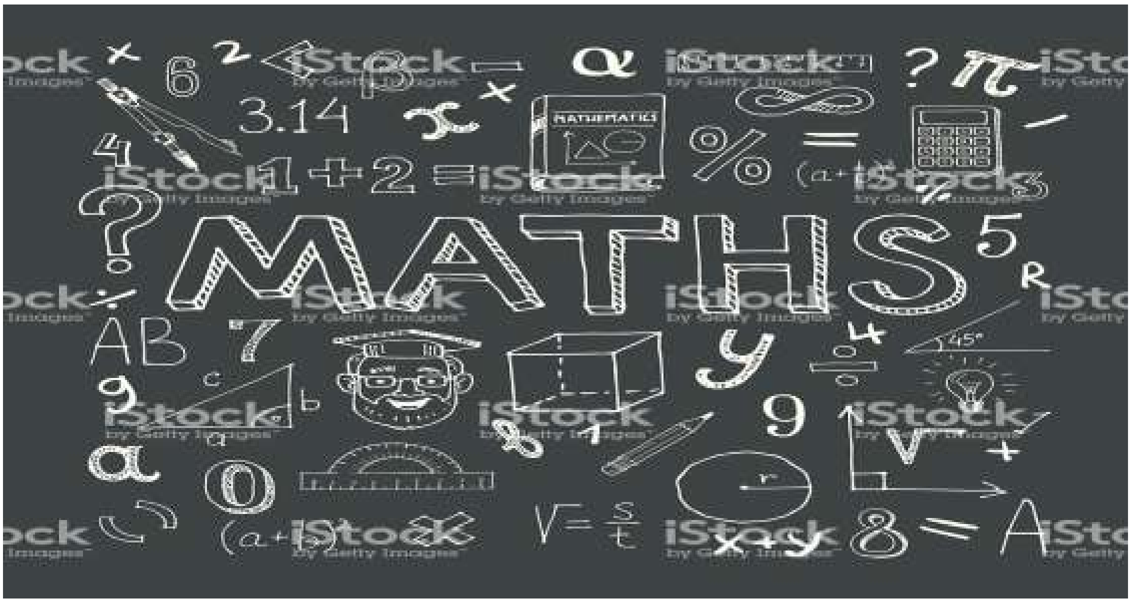
Summer Task

Tutorial Links,

Home Assignments, Work Sheets

and Activities

Academic Session 2020-2021



Class : 7^{th}

Student Name: ____________________

Father Name: ___________________

Date :06-july-2020 Day: Monday

Exercise 2.2

- **Web link https://youtu.be/Cv7198JPv-Q**

1 .Find the additive inverse and multiplicative inverse of the following rational numbers

Example 1 : Write the additive inverse of the following rational numbers.
(i) 3
Solution:
To find the additive inverse of 3, change its sign.
Additive inverse of 3 is -3
Check: 3 + (-3) = 3 - 3 = 0

Example 2: Find the multiplicative inverse of the following rational

numbers.
(i) -4
Solution:
-4
To find the multiplicative inverse of -4 , write the numerator as denominator and denominator as numerator.
Multiplicative inverse of -4 is 1/-4

Check: $(-4) \times \left(-\frac{1}{4}\right) = 1$

(i) -7

(iv) $\frac{1}{3}$

2. Simplify the following.

(ii) $\frac{5}{2}-\frac{3}{4}-\left(-\frac{1}{8}\right)$

$=\frac{5}{2}-\frac{3}{4}+\frac{1}{8}$

$=\frac{20--6+1}{8}=\frac{15}{8}=1\frac{7}{8}$

(i) $\frac{1}{8}-\left(-\frac{5}{8}\right)$

(ix) $\left(-\frac{1}{2}\right)+\left(-\frac{1}{5}\right)+\frac{9}{10}$

Learn and Write Table of 6

6 X 1 = 6	
6 X 2 = 12	
6 X 3 = 18	
6 X 4 = 24	
6 X 5 = 30	
6 X 6 = 36	
6 X 7 = 42	
6 X 8 = 48	
6 X 9 = 54	
6 X 10 = 60	
6 X 11 = 66	
6 X 12 = 72	

Date :07-july-2020 Day: Tuesday

Exercise 2.2

- Web link https://youtu.be/4Qjfwd54nQc

3.Simplify:

(ii) $-\frac{4}{5} \div \left(-\frac{6}{25}\right)$

$= -\frac{4}{5} \times \left(-\frac{25}{6}\right)$

$= \frac{(-4) \times (-25)}{5 \times 6}$

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

$= \frac{10}{3}$

(i) $\frac{8}{9} \times \frac{3}{4}$

(ix) $\frac{8}{125} \div \frac{16}{75}$

Learn and Write Table of 7

7 X 1 = 7	
7 X 2 = 14	
7 X 3 = 21	
7 X 4 = 28	
7 X 5 = 35	
7 X 6 = 42	
7 X 7 = 49	
7 X 8 = 56	
7 X 9 = 63	
7 X 10 = 70	
7 X 11 = 77	
7 X 12 = 84	

Date :08-july-2020 Day: Wednesday

Exercise 2.3

- **Web link https://youtu.be/FXXub-Ig5nI**

1 .Put the correct sign > , < or = between the following pairs of rational numbers.

Example :

(i) $\frac{1}{2}, \frac{3}{5}$

Solution:

Write other two rational numbers from the given rational numbers such that their denominators must be equal.

$\frac{1}{2} = \frac{1\times5}{2\times5} = \frac{5}{10}$ $\frac{3}{5} = \frac{3\times2}{5\times2} = \frac{6}{10}$

Now compare the numerators of rational numbers with the same Denominators

$$5 < 6$$
$$\frac{5}{10} < \frac{6}{10}$$

Thus, $\frac{1}{2} < \frac{3}{5}$

(i) $\frac{1}{2}, \frac{15}{20}$

(vii) $\frac{5}{7}, \frac{-1}{2}$

2. Arrange the following rational numbers in descending order.

Example: Arrange the rational numbers in descending order.

$\frac{1}{2}, \frac{2}{3}$ and $\frac{7}{8}$

Solution:

Step 1: The L.C.M of denominators 2, 3 and 8 is 24.

Step 2: Rewrite the rational numbers with a common denominator as,

$\frac{1}{2}=\frac{1\times12}{2\times12}=\frac{12}{24}$ $\qquad$ $\frac{2}{3}=\frac{2\times8}{3\times8}=\frac{16}{24}$ $\frac{7}{8}=\frac{7\times3}{8\times3}=\frac{21}{24}$

Step 3: Compare the numerators 12, 16 and 21 and rearrange the rational numbers in descending order.

21 > 16 > 12

$\frac{21}{24}>\frac{16}{24}>\frac{12}{24}$ or $\frac{7}{8}>\frac{2}{3}>\frac{1}{2}$

Thus, arranging in descending order, we get

$\frac{7}{8}, \frac{2}{3}, \frac{1}{2}.$

(i) $\frac{1}{2}, \frac{2}{3}, \frac{8}{9}$ $\qquad$ (ii) $\frac{1}{6}, \frac{3}{4}, \frac{1}{2}$

Learn and Write Table of 8

8 X 1 = 8	
8 X 2 = 16	
8 X 3 = 24	
8 X 4 = 32	
8 X 5 = 40	
8 X 6 = 48	
8 X 7 = 56	
8 X 8 = 64	
8 X 9 = 72	
8 X 10 = 80	
8 X 11 = 88	
8 X 12 = 96	

Date :09-july-2020 Day: Thursday

Exercise 2.3

- **Web link** https://youtu.be/ka4xGZoGpn0

3.Arrange the following rational numbers in ascending order.

Example : Arrange the rational numbers inascending order.

$\frac{1}{4}, \frac{2}{3}$ and $\frac{1}{12}$

Solution:

Step 1: The L.C.M of denominators 4, 3 and 12 is 12.

Step 2: Rewrite the rational numbers with a common denominator as,

$\frac{1}{4}=\frac{1\times3}{4\times3}=\frac{3}{12}$ $\frac{2}{3}=\frac{2\times4}{3\times4}=\frac{8}{12}$ $\frac{1}{12}=\frac{1\times1}{12\times1}=\frac{1}{12}$

Step 3: Compare the numerators 3, 8 and 1 and rearrange the rational numbers in ascending order.

1 < 3 < 8

$\frac{1}{12}<\frac{3}{12}<\frac{8}{12}$ or $\frac{1}{12}<\frac{1}{4}<\frac{2}{3}$

Thus, arranging in ascending order, we get

$\frac{1}{12}, \frac{1}{4}, \frac{2}{3}.$

(ii) $\frac{4}{5}, \frac{1}{10}, \frac{2}{15}$

(iii) $\frac{3}{8}, \frac{1}{4}, \frac{5}{6}$

Learn and Write Table of 9

9 X 1 = 9	
9 X 2 = 18	
9 X 3 = 27	
9 X 4 = 36	
9 X 5 = 45	
9 X 6 = 54	
9 X 7 = 63	
9 X 8 = 72	
9 X 9 = 81	
9 X 10 = 90	
9 X 11 = 99	
9 X 12 = 108	

Date :10-july-2020 Day: Friday

Exercise 2.3

- **Web link** https://youtu.be/nWvIprGydqQ

4.Prove that:

Example : Prove that

$$\left(\frac{1}{4}+\frac{1}{2}\right)+\frac{1}{5}=\frac{1}{4}+\left(\frac{1}{2}+\frac{1}{5}\right)$$

Solution:

$$\text{L.H.S} = \left(\frac{1}{4}+\frac{1}{2}\right)+\frac{1}{5} = \left(\frac{1+2}{4}\right)+\frac{1}{5}$$
$$= \frac{3}{4}+\frac{1}{5}$$
$$= \frac{15+4}{20}=\frac{19}{20}$$

$$\text{R.H.S} = \frac{1}{4}+\left(\frac{1}{2}+\frac{1}{5}\right) = \frac{1}{4}+\left(\frac{5+2}{10}\right)$$
$$= \frac{1}{4}+\frac{7}{10}$$
$$= \frac{5+14}{20}=\frac{19}{20}$$

$$\text{L.H.S} = \text{R.H.S}$$

(i) $\left(\frac{-1}{2}\right)+\frac{1}{3}=\frac{1}{3}+\left(-\frac{1}{2}\right)$

(iv) $-\frac{2}{3}\times\left(\frac{7}{8}\times\frac{9}{14}\right)=\left(-\frac{2}{3}\times\frac{7}{8}\right)\times\frac{9}{14}$

Learn and Write Table of 10

10 X 1 = 10	
10 X 2 = 20	
10 X 3 = 30	
10 X 4 = 40	
10 X 5 = 50	
10 X 6 = 60	
10 X 7 = 70	
10 X 8 = 80	
10 X 9 = 90	
10 X 10 = 100	
10 X 11 = 110	
10 X 12 = 120	

Date :11-july-2020 Day: Saturday

Unit 2

Review Exercise

1. Tick (✓) the correct answer.

i- A number that can be expressed in the form of p/q ,wherep,q ϵ z,q ≠ 0 is called:

(a) integer(b) rational number (c) whole number (d) all

ii-The additive inverse of 2/3 is:

(a) -2/3 (b) 3/2 (c) 1/3 (d) -3/2

iii- The multiplicative inverse of -4/7 is:

(a) 4/7 (b) 7/4 (c) -7/4 (d) 1/7

iv- 1/3 + 1/2 = _____:

(a) 1/5 (b) 1/6 (c) 2/5 (d) 5/6

v- 2/5 ÷ (-4/5) = _____:

(a) 2 (b) -2 (c) -1/2 (d) ½

2.Fill in the blanks.

(i) The________ consists of fractions as well as integers.

(ii) The rational numbers p/q and –p/q are called____ inverse of each other.

(iii) A number that can be expressed in the form of where

p and q are integers and q m? 0 is called the________

number.

(iv) 0 is called additive identity whereas 1 is called ________

identity.

(v) The rational number 0 has no ________ .

(vi) The ________ inverse of a rational number is its reciprocal.

Date :13-july-2020 Day: Monday

Unit 3

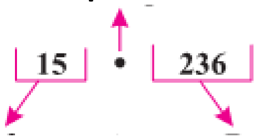
Decimals

- Introduction to Decimals
- Web link https://youtu.be/bnN6b90sIK0

Introduction

In the previous classes, we have learnt that a decimal consistsoftwo parts, i.e. a whole number part and a decimal part. To separatethese parts in a number, we place a dot between them which isknown as the decimal point.

Decimal point



Whole number part Decimal part

So, we can define a decimal; a number with a decimal point is called a decimal.

Q # 1 : Define a Decimal with examples.

Ans:

Q # 2 : From where the word decimal has been deduced and what it meant?

Ans:

Learn and Write Table of 11

11 X 1 = 11	
11 X 2 = 22	
11 X 3 = 33	
11 X 4 = 44	
11 X 5 = 55	
11 X 6 = 66	
11 X 7 = 77	
11 X 8 = 88	
11 X 9 = 99	
11 X 10 = 110	
11 X 11 = 121	
11 X 12 = 132	

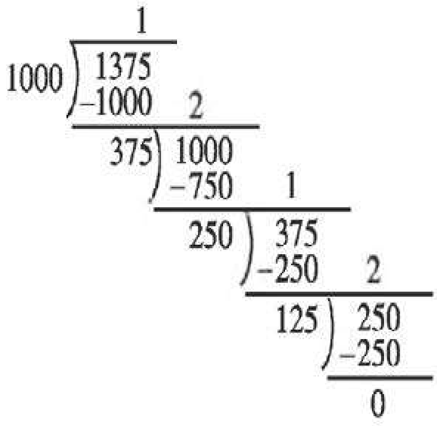
Date :14-july-2020 Day: Tuesday

Exercise 3.1

- **Web link** https://youtu.be/6TjovjLJ5DU

1.Convert the following decimals into rational numbers.

Example : Convert -1.375 to a rational number.
Solution:



$$-1.375 = -\frac{1375}{1000}$$

Find the HCF of 1375 and 1000.

$$= -\frac{1375 \div 125}{1000 \div 125} = -\frac{11}{8}$$

Thus, $-1.375 = -\frac{11}{8}$

(i) 0.36

(iii) –0.125

Learn and Write Table of 12

12 X 1 = 12	
12 X 2 = 24	
12 X 3 = 36	
12 X 4 = 48	
12 X 5 = 60	
12 X 6 = 72	
12 X 7 = 84	
12 X 8 = 96	
12 X 9 = 108	
12 X 10 = 120	
12 X 11 = 132	
12 X 12 = 144	

Date :15-july-2020 Day: Wednesday

Exercise 3.2

- **Web link** https://youtu.be/7iARreGSouk

Example :

(i) $\frac{19}{25}$

$$\begin{array}{r|l} & 0.76 \\ \hline 25 & 190 \\ & -175 \\ \hline & 150 \\ & -150 \\ \hline & 0 \end{array}$$

Thus, $\frac{19}{25} = 0.76$ which is a terminating decimal.

(ii) $\frac{17}{45}$

$$\begin{array}{r|l} & 0.377... \\ \hline 45 & 170 \\ & -135 \\ \hline & 350 \\ & -315 \\ \hline & 350 \\ & -315 \\ \hline & 35 \end{array}$$

Thus, $\frac{17}{45} = 0.377\ldots$ which is a recurring decimal.

1. Without actual division, separate the terminating and non-terminating decimals.

(i) $\frac{13}{8}$

2. Express the following rational numbers in terminating decimals.

(v) $\frac{5}{1000}$

3. Express the following rational numbers in non-terminating decimals up to three decimal places.

(vi) $\frac{24}{22}$

Learn and Write Table of 13

13 X 1 = 13	
13 X 2 = 26	
13 X 3 = 39	
13 X 4 = 52	
13 X 5 = 65	
13 X 6 = 78	
13 X 7 = 91	
13 X 8 = 104	
13 X 9 = 117	
13 X 10 = 130	
13 X 11 = 143	
13 X 12 = 156	

Date :16-july-2020 Day: Thursday

Exercise 3.2

- **Web link** https://youtu.be/Wh0GTU2Rjx4

4.Round off the following decimals up to three decimal places.

Example : Round off the decimals up to 3-decimal places 2.3427
Solution: 2.3427
The digit next to 3-decimal places is 7 (greater than 5). So, we increase the digit 2 by one. i.e. 2.3427 $\approx$2.343

(ii) 11.10365 (vi) 23.15147

(v) 0.74206

Learn and Write Table of 14

14 X 1 = 14	
14 X 2 = 28	
14 X 3 = 42	
14 X 4 = 56	
14 X 5 = 70	
14 X 6 = 84	
14 X 7 = 98	
14 X 8 = 112	
14 X 9 = 126	
14 X 10 = 140	
14 X 11 = 154	
14 X 12 = 168	

Date :17-july-2020 Day: Friday

Unit 3

Review Exercise

1. Tick (✓) the correct answer.

i- Two separate a whole number from fractional part in a decimal, we use the symbol:

(a) - (b) . (c) % (d) /

ii- If we round off the decimal 3.7461 upto two decimal places,we get:

(a) 3.74 (b) 3.7 (c) 3.84 (d) 3.75

iii- A rational number is terminating decimal, if its denominator has no prime factor other than:

(a) 2 & 3 (b) 3 & 5 (c) 2 & 5 (d) 2 & 7

iv- When we change 0.25 to the rational number,we get:

(a) 1/2 (b) 1/3 (c)1/4 (d) 1/7

2. Fill in the blanks.

(i) A ________ decimal may be recurring or non-recurring.

(ii) Two parts of decimal number separated by a dot is called the ________ .

(iii) In terminating decimals, division ________ after a finite number of steps.

(iv) In decimals, the term round off is used to leave the digits after the ________ .

(v) A fraction will be terminating if the ________ has 2 or 5 or both as factors.

Date :18-july-2020 Day: Saturday

Unit 4

- Web link https://youtu.be/q5IkIAruYFE

- Introduction to Exponents

Exponents/Indices

Identification of Base, Exponent and Value

We have studied in our previous class that the repeatedmultiplication of a number can be written in short form, usingexponent. For example,

• 7 × 7 × 7 can be written as 7^3.

We read it as 7 to the powerof 3 where 7 is the base and3 is the exponent or index.

Similarly,

• 11×11 can be written as 11^2. We read it as 11 to the power of 2where 11 is the base and 2 is the exponent.

From the above examples we can conclude that if a number "a" is multiplied with itself n –1 times, then the product will be *a*n, i.e.

an = a x a x a x ....x a (n-1 times multiplications of "a" with itself)

We read it as "a to the power of n"or "nth power of a"where "a" is the base and "n" is the exponent.

The exponent of a number indicates
us, how many times a number (base)
is multiplied with itself.

Example 1: Express each of the following in exponential form.

(i) (-3)x(-3)x(-3)

Solution:

(i) $(-3)x(-3)x(-3)=(-3)^3$

Example 2: Identify the base and exponent of each number.

(i) 13^{25}

Solution:

(i) 13^{25}

base = 13

exponent = 25

Date :20-july-2020 Day: Monday

Exercise 4.1

- **Web link** https://youtu.be/l0EWAt6iRi8

1. Identify the exponent and base in each of the following.

Example : Identify the base and exponent of each number.

13^{25}

Solution:

13^{25}

base = 13

exponent = 25

(i) $(-1)^9$ **(ii) 2^{100}** **(iii) $(-19)^{22}$**

2. Express each of the following in exponential form.

Example : Express each of the following in exponential form.

(-3)x(-3)x(-3)

Solution:

$(-3)x(-3)x(-3)=(-3)^3$

(i) 5 x 5 x 5 x 5 **(iii) *p* x *p* x *p* x *p* x *p***

Learn and Write Table of 15

15 X 1 = 15	
15 X 2 = 30	
15 X 3 = 45	
15 X 4 = 60	
15 X 5 = 75	
15 X 6 = 90	
15 X 7 = 105	
15 X 8 = 120	
15 X 9 = 135	
15 X 10 = 150	
15 X 11 = 165	
15 X 12 = 180	

Date :21-july-2020 Day: Tuesday

Exercise 4.1

- **Web link** https://youtu.be/Y0W327zBL_M

Example :-5^3

Solution:

-5^3= (-5) x (-5) x (-5)

= (+25) x (-5)

= -125

Thus, -5^3= -125

3. Prove that:

(i) $(5)^3 = 125$ **(ii) $(-1)^{11} = -1$**

4. Express each rational number using an exponent.

(i) 121 **(ii) 81**

Learn and Write Table of 16

16 X 1 = 16	
16 X 2 = 32	
16 X 3 = 48	
16 X 4 = 64	
16 X 5 = 80	
16 X 6 = 96	
16 X 7 = 112	
16 X 8 = 128	
16 X 9 = 144	
16 X 10 = 160	
16 X 11 = 176	
16 X 12 = 192	

Date :22-july-2020 Day: Wednesday

Exercise 4.2

- **Web link https://youtu.be/uJLbpIXHd5Y**

1. Simplify the using the laws of exponent into the exponential form.

Example: $5^3 x 5^4$

Solution:

$5^3 x 5^4 = 5^{3+4}$

$= 5^7$

(i) $(-4)^5$ x $(-4)^6$ **(ii) m^3 x m^4**

2. Verify the following by using the laws of exponent.

Example: $(-3)^3$ x $(-2)^3$

Solution:

= $(-3)^3$ x $(-2)^3$

= $[(-3)$ x $(-2)]^3$ = $[6]^3$

(i) $(3$ x $5)^4$ = 3^4 x 5^4 **(ii) $(7$ x $9)^8$ = 7^8 x 9^8**

Learn and Write Table of 17

17 X 1 = 17	
17 X 2 = 34	
17 X 3 = 51	
17 X 4 = 68	
17 X 5 = 85	
17 X 6 = 102	
17 X 7 = 119	
17 X 8 = 136	
17 X 9 = 153	
17 X 10 = 170	
17 X 11 = 187	
17 X 12 = 204	

Date :23-july-2020 Day: Thursday

Exercise 4.3

- **Web link** https://youtu.be/My91trILEkc

1. Simplify

Example: $8^{11} \div 8^4$

Solution:

$8^{11} \div 8^4 = 8^{11-4}$

$= 8^7$

(i) $2^7 \div 2^2$ **(ii)** $(-9)^{11} \div (-9)^8$

2. Prove that

Example: $(14)^{11} \div (63)^{11}$

Solution:

$= (\frac{14}{63})^{11}$

$= (\frac{2}{9})^{11}$

(i) $2^4 \div 7^4 = (\frac{2}{7})^4$

Learn and Write Table of 18

18 X 1 = 18	
18 X 2 = 36	
18 X 3 = 54	
18 X 4 = 72	
18 X 5 = 90	
18 X 6 = 108	
18 X 7 = 126	
18 X 8 = 144	
18 X 9 = 162	
18 X 10 = 180	
18 X 11 = 198	
18 X 12 = 216	

Date :24-july-2020 Day: Friday

Exercise 4.4

- **Web link** https://youtu.be/fy9iqDhfUZg

1. Express the following as single exponents.

Example :$(3^4)^5$

Solution:

$= 3^{4\times5}$

$= 3^{20}$

(i) $(2^3)^5$

(ii) $(10^2)^2$

(iii) $(-3^4)^5$

Learn and Write Table of 19

19 X 1 = 19	
19 X 2 = 38	
19 X 3 = 57	
19 X 4 = 76	
19 X 5 = 95	
19 X 6 = 114	
19 X 7 = 133	
19 X 8 = 152	
19 X 9 = 171	
19 X 10 = 190	
19 X 11 = 209	
19 X 12 = 228	

Date :25-july-2020 Day: Saturday

Exercise 4.4

- **Web link** https://youtu.be/JntY8VkMFwQ

Example: $[\frac{3}{4}]^{-3}$

Solution: (i) $\left(\frac{3}{4}\right)^{-3}$

$= \frac{1}{\left(\frac{3}{4}\right)^{3}}$ $\because a^{-m} = \frac{1}{a^{m}}$

$= \frac{1}{3^3/4^3} = \frac{4^3}{3^3} = \left(\frac{4}{3}\right)^{3}$ Thus, $\left(\frac{3}{4}\right)^{-3} = \left(\frac{4}{3}\right)^{3}$

2. Change the following negative exponents into positive exponents.

(i) $(12)^{-3}$ **(ii) $(-a)^{-2}$**

3. Evaluate the following expressions.

(i) $(1^2)^3 \times (2^3)^2$

Learn and Write Table of 20

20 X 1 = 20	
20 X 2 = 40	
20 X 3 = 60	
20 X 4 = 80	
20 X 5 = 100	
20 X 6 = 120	
20 X 7 = 140	
20 X 8 = 160	
20 X 9 = 180	
20 X 10 = 200	
20 X 11 = 220	
20 X 12 = 240	

Date :27-july-2020 Day: Monday

Unit 4

Review Exercise

Q # 1: Tick (✓) the correct answer.

i- 3^{rd} power of 5 can be written as:

(a) 5^3 (b) 5^4 (c) 5^5 (d) 5^6

ii- $(3^0 + 2^0) \div 7^0 = ?$

(a) 7/5 (b) 1/2 (c) 5/7 (d) 2

iii- The reciprocal of $[\frac{q}{p}]^{-m}$ is:

(a) $[\frac{p}{q}]^{m}$ (b) $[\frac{q}{p}]^{m}$ (c) $[\frac{1}{p}]^{-m}$ (d) $[\frac{1}{q}]^{-m}$

iv- $(-a)^n$ is negative, If n is an _______ integer.

(a) prime (b) even (c) composite (d) odd

v- $a^m \div a^n = ?$

(a) a^{m+n} (b) a^{mn} (c) a^{m-n} (d) $a^{m/n}$

Q # 2: Fill in the blanks.

(i) 5×5×5×5 can be written in exponential form as _________.

(ii) $a^n \times b^n =$ _________ .

(iii) $a^n / b^n = =$ __________.

(iv) Any non-zero rational number with _________ exponent equals to 1.

(v) $-a^n$ is positive, if 'n' is an _______ integer.

Date :28-july-2020 Day: Tuesday

Unit 5

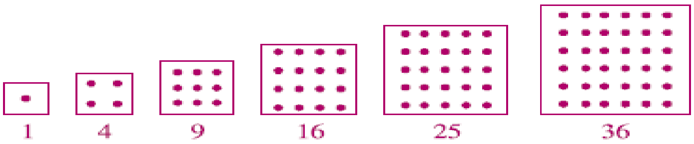
- Web link https://youtu.be/-IDB5nbEps0
- Introduction to Square Roots of Positive numbers

Introduction

In previous classes, we have learnt that the area of a squarecan be calculated by multiplying its length by itself as shown below.
Area of the square = length × length
$= x \times x$
$= x^2$
It means x^2 is an area of a square whose side length is x or simply we can say that "x^2 is the square of x". i.e.
The square of $x = x^2$
Thus, the square of a number can be defined as:
"The product of a number with itself is called its square."

Perfect Squares

A natural number is called a perfect square, if it is the squareof any natural number. To make it clear, let us find the squares ofsome natural numbers.
$1^2 = 1 \times 1 = 1$ $6^2 = 6 \times 6 = 36$
$2^2 = 2 \times 2 = 4$ $7^2 = 7 \times 7 = 49$
$3^2 = 3 \times 3 = 9$ $8^2 = 8 \times 8 = 64$
$4^2 = 4 \times 4 = 16$ $9^2 = 9 \times 9 = 81$
$5^2 = 5 \times 5 = 25$ $10^2 = 10 \times 10 = 100$ and so on
Here, "1 is the square of 1", "4 is the square of 2", "9 is the square of 3" and so on. It can be noticed that all these are natural numbers.So, these are perfect squares which can be represented by drawingdots in squares.



When we have a number of rows equal to number of dots in a row,then it shows a perfect square .

5.2 Square Roots

5.2.1 Defining square root of a natural number and recognizing its notation

The process of finding the square root is an opposite operation of "squaring a number". To understand it, again we find some perfect squares.

$2^2 = 4$(2 squared is 4)
$5^2 = 25$(5 squared is 25)
$7^2 = 49$(7 squared is 49)

These equations can also be read as, "2 is the square root of 4", "5 is the square root of 25" and "7 is the square root of 49".

Similarly, we can find the square root of any square number. For this purpose, we use the symbol " $\sqrt{\ }$ " to represent a square root, i.e. $\sqrt{x^2} = x$ where " $\sqrt{\ }$ " is called redical sign. Here, x^2 is called redicand.

If x is any number that can be written in the form of $x = y^2$, then x is called the square of y and y itself is called the square root of x.

Date :29-july-2020 Day: Wednesday

Exercise 5.1

- **Web link** https://youtu.be/iH-tvHXNk6w

1. Find the squares of the following numbers.

Example :Find square of 6.

Solution: = 6^2

= 6×6

= 36

(i) 6 **(ii) 5**

2.Test whether the following numbers are perfect squares or not.

Example : Check whether the number are perfect square or not. 3969

Solution:

3	3969
3	1323
3	441
3	147
7	49
	7

The prime factors of 3969 = $\underline{|3 \times 3|} \times \underline{|3 \times 3|} \times \underline{|7 \times 7|}$
We can see that each factor forms a pair. Hence, 3969 is a perfect square.

(i) 59 **(ii) 625**

Q # 3 : Without solving, separate the perfect squares of even and odd numbers.
Example : Without solving, separate the perfect squares of even

numbers and odd numbers
(i) 3481
Solution:
3481
The square of an odd number is also odd.
Q 3481 is the square of an odd number.

(i) 441

(ii) 144

Learn and Write Table of 6

6 X 1 = 6	
6 X 2 = 12	
6 X 3 = 18	
6 X 4 = 24	
6 X 5 = 30	
6 X 6 = 36	
6 X 7 = 42	
6 X 8 = 48	
6 X 9 = 54	
6 X 10 = 60	
6 X 11 = 66	
6 X 12 = 72	

Date :30-july-2020 Day: Thursday

Exercise 5.1

- **Web link** https://youtu.be/jt_LTwdyCY0

Example :0.02

Solution:

$$(0.02)^2 = (0.02) \times (0.02) = \frac{2}{100} \times \frac{2}{100} = \frac{4}{10000} = 0.0004$$

0.0004 is smaller than 0.02 i.e. 0.0004 < 0.02.It means the square of a decimal less than ‘1’ is always smaller thanthe given decimal

4. Find the squares of proper fractions. Also compare them with itself.

(i) $\frac{3}{4}$

5. Find the squares of decimals and compare them with itself.

(i) 0.4 **(ii) 0.6**

Learn and Write Table of 7

7 X 1 = 7	
7 X 2 = 14	
7 X 3 = 21	
7 X 4 = 28	
7 X 5 = 35	
7 X 6 = 42	
7 X 7 = 49	
7 X 8 = 56	
7 X 9 = 63	
7 X 10 = 70	
7 X 11 = 77	
7 X 12 = 84	

Date :31-july-2020 Day: Friday

Exercise 5.2

- **Web link https://youtu.be/VQnl_5FkzIw**

Example 1: Write the square root of 900.
Solution:
• Find the prime factors of 900.
Factorization of 900 = 2 × 2 × 3 × 3 × 5 × 5

• Take square root on both sides.

$$\sqrt{900} = \sqrt{2 \times 2 \times 3 \times 3 \times 5 \times 5}$$

Write them as a pair of prime factors of a perfect square.

$$\sqrt{900} = \sqrt{2 \times 2} \times \sqrt{3 \times 3} \times \sqrt{5 \times 5}$$

$$\sqrt{900} = \sqrt{2^2} \times \sqrt{3^2} \times \sqrt{5^2}$$

$\sqrt{900}$ = 2 x 3 x 5

$\sqrt{900}$ = 30

Hence, 30 is the square root of 900.

1. Find the square roots of the following numbers.
(i) 4

2. Find the square roots of the following numbers by primefactorization.
(i) 144

Learn and Write Table of 8

8 X 1 = 8	
8 X 2 = 16	
8 X 3 = 24	
8 X 4 = 32	
8 X 5 = 40	
8 X 6 = 48	
8 X 7 = 56	
8 X 8 = 64	
8 X 9 = 72	
8 X 10 = 80	
8 X 11 = 88	
8 X 12 = 96	