SESSION	**: 11**
CLASS	**: IV**
SUBJECT	**: MATHEMATICS**
CHAPTER NUMBER	**: 10**
CHAPTER NAME	**: FACTORS AND MULTIPLES**
SUBTOPIC	**: COMMON FACTORS AND HCF BY LISTING METHOD, EX-10 D Q.NO. 1**

LEARNING OBJECTIVE

- **Enable the students to understand about the common factors and HCF by listing method.**

ODM PUBLIC SCHOOL

COMMON FACTORS AND MULTIPLES

Common factors

Factors common to **2** or more numbers are said to be **common factors** for those numbers.

For example : **30** and **48** can both be divided by **2**. So, **2** is a common factors of **30** and **48**.

The **largest factor** that is **common** to all the given numbers is called the **highest common factor** (HCF) or **greater common factor** (GCF) of the given numbers :

HCF of **2** or more numbers can be found out by **2** methods:

ODM PUBLIC SCHOOL
SCHOOL OF HUMAN EXCELLENCE

HCF BY LISTING METHOD

Example :

> Find the HCF of 36 and 54 by listing method.

Step 1 : List all the factors of 36 and 54.

Factors of 36 = **1, 2, 3, 4, 6, 9, 12, 18, 36**

Factors of 54 = **1, 2, 3, 6, 9, 18, 27, 54**

HCF BY LISTING METHOD

Example :

> Find the HCF of 36 and 54 by listing method.

Step 2 : Compare and circle the common factors of **36** and **54**.

Factors of 36 = **1, 2, 3, 4, 6, 9, 12, 18, 36**

Factors of 54 = **1, 2, 3, 6, 9, 18, 27, 54**

HCF BY LISTING METHOD

Example :

> Find the HCF of 36 and 54 by listing method.

Step 3 : Identify the highest common factor among the circled numbers.

Here, 18 is the last highest common factor among the circled numbers.

So, the HCF of 36 and 54 is 18.

ODM PUBLIC SCHOOL
SCHOOL OF HUMAN EXCELLENCE

HCF BY LISTING METHOD

Exercise 10(D)

1. Find the HCF of the following:

(a) 8 and 16.

Factors of 8 = **1, 2, 4, 8**

Factors of 16 = **1, 2, 4, 8, 16**

Here, **8** is the last highest common factor among the circled numbers.

So, the HCF of 8 and 16 is **8**.

ODM PUBLIC SCHOOL
SCHOOL OF HUMAN EXCELLENCE

HCF BY LISTING METHOD

Exercise 10(D)

1. Find the HCF of the following:

(b) 12 and 24.

Factors of 12 = **1, 2, 3, 4, 6, 12**

Factors of 24 = **1, 2, 3, 4, 6, 8, 12, 24**

Here, **12** is the last highest common factor among the circled numbers.

So, the HCF of 12 and 24 is **12**.

ODM PUBLIC SCHOOL
SCHOOL OF HUMAN EXCELLENCE

HCF BY LISTING METHOD

Exercise 10(D)

1. Find the HCF of the following:

(c) 24 and 36.

Factors of 24 = **(1,) (2,) (3,) (4,) (6,) 8, (12,) 24**

Factors of 36 = **(1,) (2,) (3,) (4,) (6,) 9, (12,) 18, 36**

Here, **12** is the last highest common factor among the circled numbers.

So, the HCF of 24 and 36 is **12**.

ODM PUBLIC SCHOOL
SCHOOL OF HUMAN EXCELLENCE

HCF BY LISTING METHOD

Exercise 10(D)

1. Find the HCF of the following:

(d) 5 and 10.

Factors of 5 = **1,** **5**

Factors of 10 = **1,** **2,** **5,** **10**

Here, **5** is the last highest common factor among the circled numbers.

So, the HCF of 5 and 10 is **5**.

ODM PUBLIC SCHOOL
SCHOOL OF HUMAN EXCELLENCE

HCF BY LISTING METHOD

Exercise 10(D)

1. Find the HCF of the following:

(e) 15 and 30.

Factors of 15 = **1, 3, 5, 15**

Factors of 30 = **1, 2, 3, 5, 6, 10, 15, 30**

Here, **15** is the last highest common factor among the circled numbers.

So, the HCF of 15 and 30 is **15**.

ODM PUBLIC SCHOOL
SCHOOL OF HUMAN EXCELLENCE

HCF BY LISTING METHOD

Exercise 10(D)

1. Find the HCF of the following:

(f) 4 and 6.

Factors of 4 = **(1,)** **(2,)** **4**

Factors of 6 = **(1,)** **(2,)** **3,** **6**

Here, **2** is the last highest common factor among the circled numbers.

So, the HCF of 4 and 6 is **2**.

HCF BY LISTING METHOD

Exercise 10(D)

1. Find the HCF of the following:

(g) 54 and 72.

Factors of 54 = **1, 2, 3, 6, 9, 18, 27, 54**

Factors of 72 = **1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72**

Here, **18** is the last highest common factor among the circled numbers.

So, the HCF of 54 and 72 is **18**.

HCF BY LISTING METHOD

Exercise 10(D)

1. Find the HCF of the following:

(h) 56 and 70.

Factors of 56 = **(1,) (2,) 4, (7,) 8, (14,) 28, 56**

Factors of 70 = **(1,) (2,) 5, (7,) 10, (14,) 35, 70**

Here, **14** is the last highest common factor among the circled numbers.

So, the HCF of 56 and 70 is **14**.

ODM PUBLIC SCHOOL
SCHOOL OF HUMAN EXCELLENCE

HCF BY LISTING METHOD

Exercise 10(D)

1. Find the HCF of the following:

(i) 23 and 25.

Factors of 23 = **1,** **23**

Factors of 25 = **1,** **5,** **25**

Here, **1** is the last highest common factor among the circled numbers.

So, the HCF of 23 and 25 is **1**.

HCF BY LISTING METHOD

Exercise 10(D)

1. Find the HCF of the following:

(j) 42 and 56.

Factors of 42 = **(1,) (2,) 3, 6, (7,) (14,) 21, 42**

Factors of 56 = **(1,) (2,) 4, (7,) 8, (14,) 28, 56**

Here, **14** is the last highest common factor among the circled numbers.

So, the HCF of 42 and 56 is **14**.

ODM PUBLIC SCHOOL
SCHOOL OF HUMAN EXCELLENCE

HOME ASSIGNMENT:

- **Complete Exercise – 10(D) Q.NO. 1 in your note book.**

LEARNING OUTCOME:

Students are able to understand the common factors and HCF by listing method.

ODM PUBLIC SCHOOL

THANKING YOU

ODM EDUCATIONAL GROUP

ODM PUBLIC SCHOOL