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

LEARNING OBJECTIVE

- **Enable the students to understand about the common multiples and how to find out the LCM by using listing method.**

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COMMON MULTIPLES

When a particulars is a multiple of 2 or more numbers, it is called a **common multiple**.

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COMMON MULTIPLES

Example : Find the common multiples of 2 and 4.

Solution : Multiples of **2** = 2, 4, 6, 8, 10, 12,…….

Multiples of **4** = 4, 8, 12, 16, 20, 24, ……

Multiples that are common to both the numbers are **4**, **8**, **12……**

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COMMON MULTIPLES

Least common multiples (**LCM**) is the smallest common multiple of the given numbers. In the example below, there is no common multiple of **5** and **6** which comes before **30**. so, we say that **30** if the **LCM** of **5** and **6**.

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COMMON MULTIPLES

Example : Find the common multiples of 5 and 6.

Solution : Multiples of **5** = 5, 10, 15, 20, 25, 30, 35,.....

Multiples of **6** = 6, 12, 18, 24, 30, 36,.....

We can say that **30** is a common multiple of **5** and **6**

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COMMON MULTIPLES

LCM by listing method:

In this method, we list the first few multiples of the given numbers. Then we circle the **common multiples** and identify the lest **common multiple** of the given numbers among the circled ones.

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COMMON MULTIPLES

LCM by listing method:

Example : Find the LCM of 12, 15 and 20.

Solution : **Step 1 :** list the multiples of each number.

Multiples of **12** = 12, 24, 36, 48, 60, 72, 84, 96, 108, 120

Multiples of **15** = 15, 30, 45, 60, 75, 90, 105, 120, 135

Multiples of **20** = 20, 40, 60, 80, 100, 120, 140, 160

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COMMON MULTIPLES

LCM by listing method:

Example : Find the LCM of 12, 15 and 20.

Solution : **Step 2 :** Circle the common multiples of 12, 15 and 20.

Multiples of **12** = 12, 24, 36, 48, (60), 72, 84, 96, 108, (120)

Multiples of **15** = 15, 30, 45, (60), 75, 90, 105, (120), 135

Multiples of **20** = 20, 40, (60), 80, 100, (120), 140, 160

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COMMON MULTIPLES

LCM by listing method:

Example : Find the LCM of 12, 15 and 20.

Solution : **Step 3 :** identify the least common multiples among the circled numbers.

Multiples of **12** = 12, 24, 36, 48, 60, 72, 84, 96, 108, 120

Multiples of **15** = 15, 30, 45, 60, 75, 90, 105, 120, 135

Multiples of **20** = 20, 40, 60, 80, 100, 120, 140, 160

Here, **60** is the first common multiple of **12**, **15** and **20**.

So, LCM of **12**, **15** and **20** is **60**.

COMMON MULTIPLES

Exercise 10(E)

1. Find the LCM of the given numbers by listing method. (up to first three multiples).

(a) **2** and **6**.

Multiples of **2** = 2, 4, 6

Multiples of **6** = 6, 12, 18

Here, **6** is the first common multiple of **2** and **6**.

So, LCM of **2** and **6** is **6**.

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COMMON MULTIPLES

Exercise 10(E)

1. Find the LCM of the given numbers by listing method. (up to first three multiples).

(b) **4** and **12**.

Multiples of **4** = 4, 8, 12

Multiples of **12** = 12, 24, 36

Here, **12** is the first common multiple of **4** and **12**.

So, LCM of **4** and **12** is **12**.

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COMMON MULTIPLES

Exercise 10(E)

1. Find the LCM of the given numbers by listing method. (up to first three multiples).

(c) **5** and **3**.

Multiples of **5** = 5, 10, 15

Multiples of **3** = 3, 6, 9, 12, 15

Here, **15** is the first common multiple of **5** and **3**.

So, LCM of **5** and **3** is **15**.

COMMON MULTIPLES

Exercise 10(E)

1. Find the LCM of the given numbers by listing method. (up to first three multiples).

(d) **3** and **9**.

Multiples of **3** = 3, 6, 9

Multiples of **9** = 9, 18, 27

Here, **9** is the first common multiple of **3** and **9**.

So, LCM of **3** and **9** is **9**.

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COMMON MULTIPLES

Exercise 10(E)

1. Find the LCM of the given numbers by listing method. (up to first three multiples).

(e) **10** and **20**.

Multiples of **10** = 10, 20, 30

Multiples of **20** = 20, 40, 60

Here, **20** is the first common multiple of **10** and **20**.

So, LCM of **10** and **20** is **20**.

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COMMON MULTIPLES

Exercise 10(E)

1. Find the LCM of the given numbers by listing method. (up to first three multiples).

(f) **6** and **4**.

Multiples of **6** = 6, 12, 18

Multiples of **4** = 4, 8, 12

Here, **12** is the first common multiple of **6** and **4**.

So, LCM of **6** and **4** is **12**.

COMMON MULTIPLES

Exercise 10(E)

1. Find the LCM of the given numbers by listing method. (up to first three multiples).

(g) **4** and **18**.

Multiples of **4** = 4, 8, 12, 16,
20, 24, 28, 32, 36

Multiples of **18** = 18, 36, 54

So, LCM of **4** and **18** is **36** .

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COMMON MULTIPLES

Exercise 10(E)

1. Find the LCM of the given numbers by listing method. (up to first three multiples).

(h) **4** and **6**.

Multiples of **4** = 4, 8, 12

Multiples of **6** = 6, 12, 18

Here, **12** is the first common multiple of **4** and **6**.

So, LCM of **4** and **6** is **12**.

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COMMON MULTIPLES

Exercise 10(E)

1. Find the LCM of the given numbers by listing method. (up to first three multiples).

(i) **16** and **8**.

Multiples of **16** = 16, 32, 48

Multiples of **8** = 8, 16, 24

Here, **16** is the first common multiple of **16** and **8**.

So, LCM of **16** and **8** is **16**.

COMMON MULTIPLES

Exercise 10(E)

1. Find the LCM of the given numbers by listing method. (up to first three multiples).

(j) **9** and **12**.

Multiples of **9** = 9, 18, 27, 36

Multiples of **12** = 12, 24, 36

Here,.

So, LCM of **9** and **12** is **36**.

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HOME ASSIGNMENT:

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

LEARNING OUTCOME:

Students are able to understand about the common multiples and how to find out the LCM by using listing method.

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THANKING YOU

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