

## LCM & HCF

- Q) Find the least common multiple of  $\frac{2}{5}$ ,  $\frac{4}{15}$  and  $\frac{6}{25}$ .  
 $\frac{2}{5}$ ,  $\frac{4}{15}$  और  $\frac{6}{25}$  का लघुत्तम समापवर्त्य ज्ञात कीजिए।

$$\frac{\text{LCM}(2, 4, 6)}{\text{HCF}(5, 15, 25)} = \frac{12}{5}$$

$\begin{array}{c} \text{⑫} \text{--- LCM} \\ \text{⑤} \text{--- HCF} \end{array}$

- Q) Find the LCM of  $\frac{2}{3}$ ,  $\frac{4}{7}$  and  $\frac{9}{13}$ .

$\frac{2}{3}$ ,  $\frac{4}{7}$  और  $\frac{9}{13}$  का ल. स (LCM) ज्ञात करें।

$$\frac{\text{LCM}(2, 4, 9)}{\text{HCF}(3, 7, 13)} = \frac{36}{1} = 36$$

$\begin{array}{c} \text{③⑥} \text{--- LCM} \\ \text{①} \text{--- HCF} \end{array}$

- Q) Find the HCF of  $\frac{4}{11}$  and  $\frac{16}{33}$

$\frac{4}{11}$  और  $\frac{16}{33}$  का महत्तम समापवर्तक क्या है ?

$$\frac{\text{HCF}(4, 16)}{\text{LCM}(11, 33)} = \frac{4}{33}$$

$\begin{array}{c} \text{④} \text{--- HCF} \\ \text{③③} \text{--- LCM} \end{array}$

**LCM**

$$\frac{\text{LCM}(4, 16)}{\text{HCF}(11, 33)} = \frac{16}{11}$$

$\begin{array}{c} \text{④} \text{--- LCM} \\ \text{①①} \text{--- HCF} \end{array}$

Q) What is the highest common factor of  $\frac{3}{8}$ ,  $\frac{5}{12}$  and  $\frac{15}{16}$

$\frac{3}{8}$ ,  $\frac{5}{12}$  और  $\frac{15}{16}$  का महत्तम समापवर्तक (HCF) क्या है ?

$$\frac{\text{HCF}(3, 5, 15)}{\text{LCM}(8, 12, 16)} \rightarrow \text{HCF} = 1$$

$$\begin{array}{l} 16x \\ 32x \\ \rightarrow 48 - \text{LCM} \end{array}$$

$$\frac{1}{48}$$

**LCM**

$$\frac{\text{LCM}(3, 5, 15)}{\text{HCF}(8, 12, 16)}$$

$$\frac{15 - \text{LCM}}{4 - \text{HCF}}$$

$$\frac{15}{4}$$

$$\frac{15}{4}$$

TYPE-IV

LCM & HCF of Decimal Numbers

•  $\frac{2\sqrt{4}}{10} = \frac{24}{10}$

•  $\frac{0.\sqrt{25}}{100} = \frac{25}{100} \frac{1}{4}$

•  $\frac{1\sqrt{25}}{100} = \frac{125}{100} \frac{5}{4}$

•  $\frac{20}{50} = \frac{20}{50}$

# ROJGAR WITH ANKIT

•  $\frac{20}{100}, \frac{7}{100}$

•  $\frac{20}{100}, \frac{3}{100}, \frac{600}{100}$

$\frac{20}{100}, \frac{3}{100}, \frac{600}{100}$

**Step-1** Convert Decimal Number into fraction.

दशमलव वाली संख्याओं को भिन्न में बदलना।

**Step-2** Make equal each denominator of the given fraction  
दिए गए भिन्न के प्रत्येक हर को बराबर करो।

**Step-3** Apply LCM & HCF formula of fractions.

Q) Find the LCM of 1.2, 1.8, 2, 2.5?

1.2, 1.8, 2, 2.5 का लघुत्तम समापवर्त्य ज्ञात कीजिए।

$1.2, 1.8, 2, 2.5$

$\frac{12}{10}, \frac{18}{10}, \frac{20}{10}, \frac{25}{10}$

$LCM(12, 18, 20, 25)$

$HCF(10, 10, 10, 10)$

$10(1, 1, 1, 1)$

$100 \times 9 = 900$

$\frac{900}{10} = 90$

$(a, a, a)$

$LCM = a$

$HCF = a$

Ex:- (25, 25, 25)

$LCM = 25 \quad HCF = 25$

$12, 18, 20, 25$   
 $LCM = 36 \quad LCM = 100$

4	36, 100
9	9, 25
25	1, 25
	1, 1

Q) Find the LCM of 3.2, 2.72, 1.28 and 1.44.

3.2, 2.72, 1.28 और 1.44 का LCM ज्ञात कीजिए।

$3.2, 2.72, 1.28, 1.44$

$\frac{320}{100}, \frac{272}{100}, \frac{128}{100}, \frac{144}{100}$

$\frac{\text{LCM}(320, 272, 128, 144)}{\text{HCF}(100, 100, 100, 100)}$

$\frac{16 \times 40 \times 153}{100}$

$\frac{6120 \times 16}{100} = \frac{97920}{100}$

979.2

16	320, 272, 128, 144
2	20, 17, 8, 9
2	10, 17, 4, 9
2	5, 17, 2, 9
5	5, 17, 1, 9
9	1, 17, 1, 9
17	1, 17, 1, 1
	1, 1, 1, 1

Q) LCM of 0.126, 0.36 and 0.96. Find (LCM)

0.126, 0.36 और 0.96 का ल.स.प. (LCM) ज्ञात करें।

$0.126, 0.36, 0.96$

$\frac{126}{1000}, \frac{360}{1000}, \frac{960}{1000}$

$\frac{\text{LCM}(126, 360, 960)}{\text{HCF}(1000, 1000, 1000)}$

$\frac{360 \times 7 \times 8}{2520 \times 8}$

20160

20160

20160

$\frac{20160}{1000} = 20.16$

6	126, 360, 960
3	21, 60, 160
4	7, 20, 160
5	7, 5, 40
7	7, 1, 8
8	1, 1, 8
	1, 1, 1

Q) Find the HCF of 0.25, 2.08 and 8.1  
 0.25, 2.08 और 8.1 का महत्तम समापवर्तक ज्ञात कीजिए।

$$0.25, 2.08, 8.1$$

$$\frac{25}{100}, \frac{208}{100}, \frac{810}{100}$$

$$\frac{\text{HCF}(25, 208, 810)}{\text{LCM}(100, 100, 100)} \quad \text{HCF} = 1$$

$$\text{LCM}(100, 100, 100) \quad \text{LCM} = 100$$

$$\frac{1}{100} = 0.01$$

Q) Find the HCF of 1.43, 1.87 and 20.9.  
 1.43, 1.87 और 20.9 का HCF ज्ञात कीजिए।

$$1.43, 1.87, 20.9$$

$$\frac{143}{100}, \frac{187}{100}, \frac{2090}{100}$$

$$\frac{\text{HCF}(143, 187, 2090)}{\text{LCM}(100, 100, 100)}$$

$44 \rightarrow 2 \times 22$   
 $44 \rightarrow 4 \times 11$

$$\text{LCM}(100, 100, 100)$$

$$\frac{11}{100} = 0.11$$

## 1. Find the Greatest Common Factor

(HCF) of  $\frac{2}{3}$ ,  $\frac{4}{5}$  and  $\frac{3}{2}$ . $\frac{2}{3}$ ,  $\frac{4}{5}$  और  $\frac{3}{2}$  का महत्तम समापवर्तक (HCF) ज्ञात कीजिए।

(a)  $\frac{1}{40}$

(b)  $\frac{1}{30}$

(c)  $\frac{5}{30}$

(d)  $\frac{3}{50}$

## 2. Find the least common multiple

(LCM) of  $\frac{5}{6}$ ,  $\frac{6}{5}$  and  $\frac{3}{2}$ . $\frac{5}{6}$ ,  $\frac{6}{5}$  और  $\frac{3}{2}$  का लघुत्तम समापवर्त्य (LCM) ज्ञात कीजिए।

(a) 20

(b) 15

(c) 30

(d) 25

3. Find the LCM of  $\frac{2}{3}$ ,  $\frac{4}{9}$ ,  $\frac{7}{12}$ ,  $\frac{3}{5}$ . $\frac{2}{3}$ ,  $\frac{4}{9}$ ,  $\frac{7}{12}$ ,  $\frac{3}{5}$  का ल.स.प. (LCM) ज्ञात कीजिए।

(a) 98

(b) 94

(c) 84

(d) 86

## 4. What will be the least common

multiple (LCM) of  $\frac{6}{25}$ ,  $\frac{4}{45}$  and  $\frac{3}{35}$ ? $\frac{6}{25}$ ,  $\frac{4}{45}$  और  $\frac{3}{35}$  का लघुत्तम समापवर्त्य (LCM) कितना होगा?

(a)  $\frac{1}{5}$

(b)  $\frac{12}{5}$

(c)  $\frac{210}{12}$

(d)  $\frac{12}{210}$

## 5. Find the Greatest Common Factor

(H. C. F.) of  $\frac{2}{3}$ ,  $\frac{4}{9}$ ,  $\frac{8}{15}$  and  $\frac{10}{21}$ . $\frac{2}{3}$ ,  $\frac{4}{9}$ ,  $\frac{8}{15}$  और  $\frac{10}{21}$  का महत्तम समापवर्तक (H. C. F.) ज्ञात करें।

(a)  $\frac{315}{4}$

(b)  $\frac{315}{4}$

(c)  $\frac{315}{2}$

(d)  $\frac{2}{315}$

## 6. Find the greatest common factor of

 $\frac{2}{9}$ ,  $\frac{16}{81}$ ,  $\frac{32}{117}$  and  $\frac{54}{189}$ . $\frac{2}{9}$ ,  $\frac{16}{81}$ ,  $\frac{32}{117}$  और  $\frac{54}{189}$  का महत्तम समापवर्तक ज्ञात कीजिए।

(a)  $\frac{4}{6459}$

(b)  $\frac{4}{1899}$

(c)  $\frac{2}{7371}$

(d)  $\frac{8}{8483}$

## 7. Find the LCM and HCF of 1.75,

5.6 and 7

1.75, 5.6 और 7 के ल.स.प. LCM और म.स.प. HCF ज्ञात कीजिए

(a) 24, 0.2

(b) 28, 0.25

(c) 28, 0.35

(d) 24, 0.35

8. Find the HCF of 1.08, 0.36 and 0.9.

1.08, 0.36 और 0.9 का HCF ज्ञात कीजिए।

(a) 0.03

(b) 18

(c) 0.18

(d) 1.8

9. Find the LCM of 0.63, 10.5, 2.1, 4.20.

0.63, 10.5, 2.1, 4.20 का LCM ज्ञात कीजिए।

(a) 63

(b) 0.63

(c) 6.30

(d) 6300

10. Find the least common multiple

(LCM) of  $\frac{2}{3}$ ,  $\frac{4}{9}$ ,  $\frac{8}{15}$  and  $\frac{10}{21}$ .

$\frac{2}{3}$ ,  $\frac{4}{9}$ ,  $\frac{8}{15}$  और  $\frac{10}{21}$  का लघुत्तम समापवर्त्य (LCM) ज्ञात कीजिए।

(a)  $\frac{40}{3}$

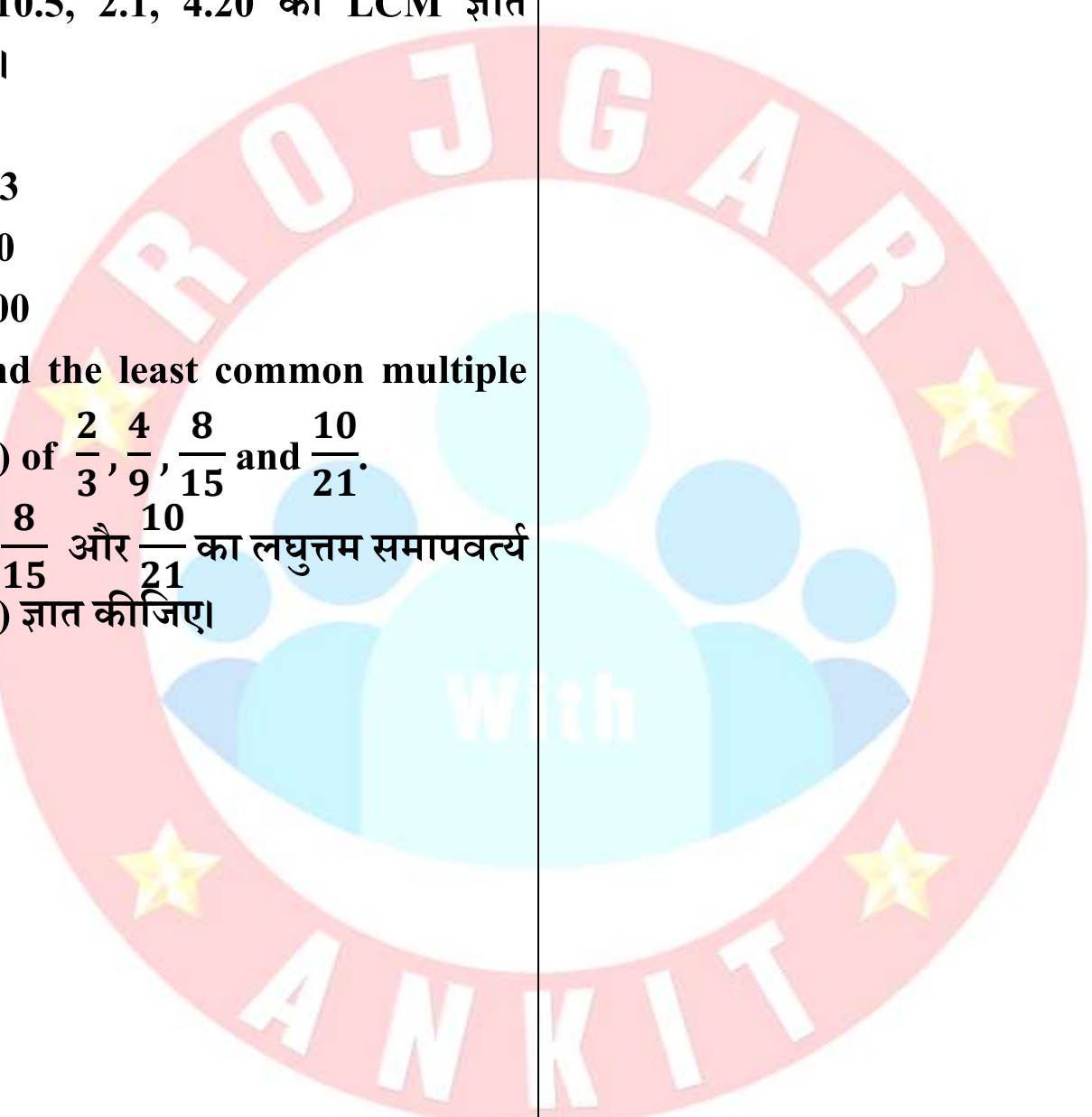
(b)  $\frac{3}{40}$

(c)  $\frac{3}{20}$

(d)  $\frac{20}{3}$

## ANSWER SHEET

1	2	3	4	5	6	7	8	9	10
B	C	C	B	D	C	C	C	A	A



Sol. 1

$$\frac{2}{3}, \frac{4}{5}, \frac{3}{2} \text{ H.C.F}$$

$$\frac{2, 4, 3 (\text{H.C.F}) \Rightarrow \frac{1}{30}}{3, 5, 2 (\text{L.C.M}) \Rightarrow}$$

$$\boxed{\text{H.C.F} \Rightarrow \frac{1}{30}}$$

Sol. 2

$$\frac{5}{6}, \frac{6}{5}, \frac{3}{2} \text{ L.C.M} = ?$$

$$\frac{5, 6, 3 (\text{L.C.M}) \Rightarrow 30}{6, 5, 2 (\text{H.C.F}) \Rightarrow 1}$$

$$\boxed{\text{L.C.M} \Rightarrow 30}$$

Sol. 3

$$\frac{2}{3}, \frac{4}{9}, \frac{7}{12}, \frac{3}{5} \text{ (L.C.M} = ?)$$

$$\frac{2, 4, 7, 3 (\text{L.C.M}) \Rightarrow 84}{3, 9, 12, 5 (\text{H.C.F}) \Rightarrow 1}$$

$$\boxed{\text{L.C.M} = 84}$$

Sol. 4

$$\frac{6}{25}, \frac{4}{45}, \frac{3}{35} \text{ L.C.M} = ?$$

$$\frac{6, 4, 3 (\text{L.C.M}) \Rightarrow 12}{25, 45, 35 (\text{H.C.F}) \Rightarrow 5}$$

$$\boxed{\text{L.C.M} \Rightarrow \frac{12}{5}}$$

Sol. 5

$$\frac{2}{3}, \frac{4}{9}, \frac{8}{15}, \frac{10}{21} \text{ (H.C.F)}$$

$$\frac{2, 4, 8, 10 (\text{H.C.F}) \Rightarrow \frac{2}{315}}{3, 9, 15, 21 (\text{L.C.M})}$$

$$\boxed{\text{H.C.F} \Rightarrow \frac{2}{315}}$$

Sol. 6

$$\frac{2}{9}, \frac{16}{81}, \frac{32}{117}, \frac{54}{189} \text{ H.C.F}$$

$$\frac{2, 16, 32, 54 (\text{H.C.F}) \Rightarrow \frac{2}{7371}}{9, 81, 117, 189 (\text{L.C.M})}$$

$$\boxed{\text{H.C.F} \Rightarrow \frac{2}{7371}}$$

Sol. 7

$$1.75, 5.6, 7 \text{ or L.C.M}$$

$$\frac{175}{100}, \frac{560}{100}, \frac{700}{100}$$

$$175, 560, 700 (\text{L.C.M}) \Rightarrow \frac{2800}{100}$$

$$\text{L.C.M} \Rightarrow \boxed{28}$$

$$\text{H.C.F} \Rightarrow \frac{35}{100} \boxed{.35}$$

$$\boxed{\text{L.C.M, H.C.F } 28, .35}$$

Sol. 8

1.08, 0.36, 0.9

$$\frac{108}{100}, \frac{36}{100}, \frac{90}{100} \quad \text{H.C.F}$$

$$\frac{\text{H.C.F}}{\text{L.C.M}} \Rightarrow \frac{18}{100}$$

$$\Rightarrow .18$$

Sol. 10

$$\frac{2}{3}, \frac{4}{9}, \frac{8}{15}, \frac{10}{21} \quad \text{L.C.M}=?$$

$$\frac{\text{L.C.M}}{\text{H.C.F}} \Rightarrow \frac{40}{3}$$

$$\text{L.C.M} \Rightarrow \frac{40}{3}$$

Sol. 9

63, 105, 210, 420 L.C.M=?

$$\frac{63}{100}, \frac{1050}{100}, \frac{210}{100}, \frac{420}{100}$$

$$\frac{\text{L.C.M}}{\text{H.C.F}} \Rightarrow \frac{6300}{100}$$

$$\Rightarrow 63$$