

(a) 16 and 48

$$\begin{array}{r|l}
 2 & 16 \\
 \hline
 2 & 8 \\
 \hline
 2 & 4 \\
 \hline
 2 & 2 \\
 \hline
 & 1
 \end{array}$$

$$\begin{array}{r|l}
 2 & 48 \\
 \hline
 2 & 24 \\
 \hline
 2 & 12 \\
 \hline
 2 & 6 \\
 \hline
 & 3
 \end{array}$$

$$\begin{aligned}
 16 &= 2 \times 2 \times 2 \times 2 \times 1 \\
 48 &= 2 \times 2 \times 2 \times 2 \times 3
 \end{aligned}$$

$$\text{LCM} = 2 \times 2 \times 2 \times 2 \times 1 \times 3 = 48$$

(b) 8, 12 and 16

$$\begin{array}{r|l}
 2 & 8 \\
 \hline
 2 & 4 \\
 \hline
 2 & 2 \\
 \hline
 & 1
 \end{array}$$

$$\begin{array}{r|l}
 2 & 12 \\
 \hline
 2 & 6 \\
 \hline
 & 3
 \end{array}$$

$$\begin{array}{r|l}
 2 & 16 \\
 \hline
 2 & 8 \\
 \hline
 2 & 4 \\
 \hline
 2 & 2 \\
 \hline
 & 1
 \end{array}$$

$$\begin{aligned}
 8 &= 2 \times 2 \times 2 \times 1 \\
 12 &= 2 \times 2 \times 3 \\
 16 &= 2 \times 2 \times 2 \times 2 \times 1
 \end{aligned}$$

$$\text{LCM} = 2 \times 2 \times 2 \times 3 \times 1 = 48$$

(c) 20 and 25

$$\begin{array}{r|l} 2 & 20 \\ \hline 2 & 10 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$$\begin{array}{r|l} 5 & 25 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$$20 = 2 \times 2 \times \textcircled{5} \times \textcircled{1}$$

$$25 = 5 \times \textcircled{5} \times \textcircled{1}$$

$$\text{LCM} = 2 \times 2 \times 5 \times 5 \times 1 = 100$$

(d) 40 and 50

$$\begin{array}{r|l} 2 & 40 \\ \hline 2 & 20 \\ \hline 2 & 10 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$$\begin{array}{r|l} 2 & 50 \\ \hline 5 & 25 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$$40 = \textcircled{2} \times 2 \times 2 \times \textcircled{5} \times \textcircled{1}$$

$$50 = \textcircled{2} \times 5 \times \textcircled{5} \times \textcircled{1}$$

$$\text{LCM} = 2 \times 2 \times 5 \times 2 \times 5 \times 1 = 200$$

(e) 56 and 64

$$\begin{array}{r|l} 2 & 56 \\ \hline 2 & 28 \\ 2 & 14 \\ 7 & 7 \\ & 1 \end{array}$$

$$\begin{array}{r|l} 2 & 64 \\ \hline 2 & 32 \\ 2 & 16 \\ 2 & 8 \\ 2 & 4 \\ 2 & 2 \\ & 1 \end{array}$$

$$56 = 2 \times 2 \times 2 \times 7 \times 1$$

$$64 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 1$$

$$\text{LCM} = 2 \times 2 \times 2 \times 7 \times 2 \times 1 \times 2 \times 2 = 448$$

(f) 96 and 144

<u>2</u>	96	2	144
2	48	2	72
2	24	2	36
2	12	2	18
2	6	3	9
	3		3

$$96 = 2 \times 2 \times 2 \times 2 \times 2 \times 3$$

$$144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3$$

$$\text{LCM} = 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3 = 288$$

(g) 36 and 42

2	36	2	42
2	18	3	21
3	9		7
	3		

$$36 = 2 \times 2 \times 3 \times 3$$

$$42 = 2 \times 3 \times 7$$

$$\text{LCM} = 2 \times 2 \times 3 \times 3 \times 7 = 252$$

(h) 21 and 36

3	21	3	36
	7	2	12
		2	6
			3

$$21 = 3 \times 7$$

$$36 = 3 \times 2 \times 2 \times 3$$

Important Notes

$$\text{LCM} = 3 \times 7 \times 2 \times 2 \times 3 = 252$$

(i) 15, 45

$$\begin{array}{r} 3 \overline{) 15} \\ \underline{5} \end{array}$$

$$\begin{array}{r} 3 \overline{) 45} \\ \underline{15} \\ 3 \end{array}$$

$$\begin{aligned} 15 &= 3 \times 5 \\ 45 &= 3 \times 5 \times 3 \end{aligned}$$

$$\text{LCM} = 3 \times 5 \times 3 = 45$$

(j) 10, 20, and 30

$$\begin{array}{r} 2 \overline{) 10} \\ \underline{5} \end{array}$$

$$\begin{array}{r} 2 \overline{) 20} \\ \underline{10} \\ 2 \end{array}$$

$$\begin{array}{r} 2 \overline{) 30} \\ \underline{15} \\ 3 \end{array}$$

$$\begin{aligned} 10 &= 2 \times 5 \\ 20 &= 2 \times 5 \times 2 \\ 30 &= 2 \times 5 \times 2 \times 3 = 60 \end{aligned}$$

$$\text{LCM} = 2 \times 5 \times 2 \times 3 = 60$$