Exercise 2E

Q1

Answer :

The given numbers are 42 and 63.

We have:

$$
\begin{array}{r|l}
7 & 42, 63 \\
\hline
3 & 6, 9 \\
\hline
3 & 2, 3 \\
\hline
2 & 2, 1 \\
\hline
 & 1, 1
\end{array}
$$

$\therefore$ LCM $= 7 \times 3 \times 3 \times 2 \times 1$

$= 126$

Q2

Answer :

The given numbers are 60 and 75.

We have:

$$
\begin{array}{r|l}
3 & 60, 75 \\
\hline
5 & 20, 25 \\
\hline
\end{array}
$$

$$
\begin{array}{r|l}
5 & 4,5 \\
\hline
2 & 4,1 \\
\hline
2 & 2,1 \\
\hline
 & 1,1
\end{array}
$$

∴ LCM = 3 × 5× 5 × 2 × 2

= 300

Q3

Answer :

The given numbers are 12, 18 and 20.

We have:

$$
\begin{array}{r|l}
2 & 12,18,20 \\
\hline
2 & 6,9,10 \\
\hline
3 & 3,9,5 \\
\hline
3 & 1,3,5 \\
\hline
5 & 1,1,5 \\
\hline
 & 1,1,1
\end{array}
$$

∴ LCM = 2 × 2 × 3× 3 × 5

= 180

Q4

Answer :

The given numbers are 36, 60 and 72.

We have:

$$
\begin{array}{r|l}
2 & 36,60,72
\end{array}
$$

2 | 36,60,72

2 | 18,30,36

3 | 9,15,18

3 | 3,5,6

5 | 1,5,2

2 | 1,1,2

1,1,1

∴ LCM = 2 × 2 × 2 × 3 × 3 × 5

= 360

Q5

Answer :

The given numbers are 36, 40 and 126.

We have:

2 | 36,40,126

3 | 18,20,63

3 | 6,20,21

2 | 2,20,7

2 | 1,10,7

5 | 1,5,7

7 | 1,1,7

1,1,1

∴ LCM = 2 × 3 × 3 ×2 × 2 × 5 × 7

= 2520

Q6

Answer :

The given numbers are 16, 28, 40 and 77.

We have:

$$
\begin{array}{r|l}
2 & 16, 28, 40, 77 \\
7 & 8, 14, 20, 77 \\
2 & 8, 2, 20, 11 \\
2 & 4, 1, 10, 11 \\
2 & 2, 1, 5, 11 \\
5 & 1, 1, 5, 11 \\
11 & 1, 1, 1, 11 \\
 & 1, 1, 1, 1
\end{array}
$$

$\therefore$ LCM = $2 \times 7 \times 2 \times 2 \times 2 \times 5 \times 11$

$= 6160$

Q7

Answer :

The given numbers are 28, 36, 45 and 60.

We have:

$$
\begin{array}{r|l}
2 & 28, 36, 45, 60 \\
2 & 14, 18, 45, 30 \\
3 & 7, 9, 45, 15 \\
3 & 7, 3, 15, 5 \\
5 & 7, 1, 5, 5 \\
7 & 7, 1, 1, 1 \\
 & 1, 1, 1, 1
\end{array}
$$

$\therefore$ LCM = 2 × 2 × 3 × 3 × 5 × 7

= 1260

Q8

Answer :

The given numbers are 144, 180 and 384.

We have:

2	144, 180, 384
2	72, 90, 192
2	36, 45, 96
2	18, 45, 48
3	9, 45, 24
3	3, 15, 8
2	1, 5, 8
2	1, 5, 4
2	1, 5, 2
5	1, 5, 1
	1, 1, 1

$\therefore$ LCM = $2^7 \times 3^2 \times 5$

= 5760

********** END **********