Exercise 2D

Q18

Answer :

The given numbers are 1794, 2346 and 4761.

First, we will find the HCF of 1794 and 2346.

$$
\begin{array}{r}
1 \\
1794\overline{)\,2346} \\
-1794 \\
\hline
552\overline{)\,1794}\,(3 \\
-1656 \\
\hline
138\overline{)\,552}\,(4 \\
-552 \\
\hline
0
\end{array}
$$

So, the HCF of 1794 and 2346 is 138.

Now, we will find the HCF of 138 and 4761.

$$
\begin{array}{r}
34 \\
138\overline{)\,4761} \\
-4692 \\
\hline
69\overline{)\,138}\,(2 \\
-138 \\
\hline
0
\end{array}
$$

So, the HCF of 138 and 4761 is 69.

∴ The HCF of 1794, 2346 and 4761 is 69.

Q19

Answer :

The given numbers are 59 and 97.

$59 = 59 \times 1$

$97 = 97 \times 1$

∴ HCF = 1

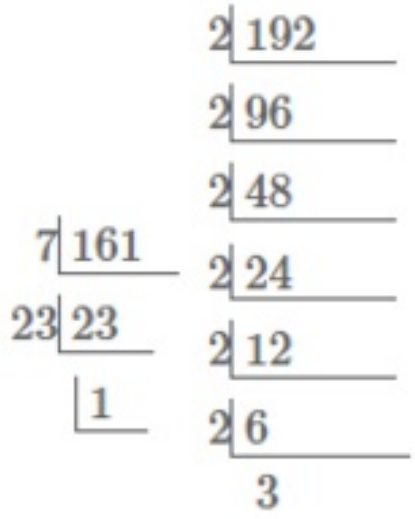
Since 59 and 97 does not have any common factor other than 1, the two numbers are co-primes.

Q20

Answer :

The given numbers are 161 and 192.

We have:



Now, 161 = 7 × 23 × 1

192 = 2 × 2× 2 ×2 × 2× 2 × 3 = 2^6 × 3 × 1

∴ HCF = 1

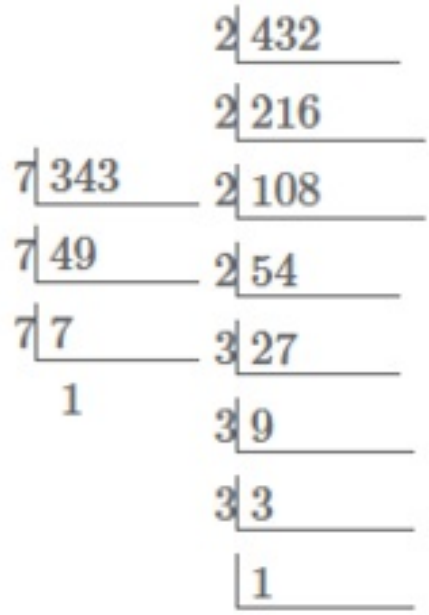
Hence, 161 and 192 are co-primes.

Q21

Answer :

The given numbers are 343 and 432.

We have:



Now, 343 = 7 × 7× 7 × 1 = 7^3 × 1

432 = 2 × 2× 2 ×2 × 3× 3 ×3 = 2^4 × 3^3 × 1

∴ HCF =1

Hence, 343 and 432 are co-primes.

Q22

Answer :

Given numbers are 512 and 945.

We have:

$$
\begin{array}{r|l}
2 & 512 \\
2 & 256 \\
2 & 128 \\
2 & 64 \\
2 & 32 \\
2 & 16 \\
2 & 8 \\
2 & 4 \\
2 & 2 \\
 & 1
\end{array}
$$

$$
\begin{array}{r|l}
3 & 945 \\
3 & 315 \\
3 & 105 \\
5 & 35 \\
7 & 7 \\
 & 1
\end{array}
$$

$512 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 2^9$

$945 = 3 \times 3 \times 3 \times 5 \times 7 = 3^3 \times 5 \times 7$

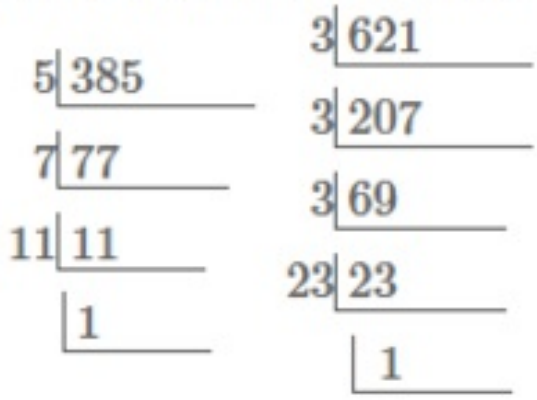
Thus, the HCF of 512 and 945 is 1.

∴ 512 and 945 are co-primes.

Q23

Answer :

The given numbers are 385 and 621.



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