



Exercise 2D

Q18

Answer :

The given numbers are 1794, 2346 and 4761.

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

$$\begin{array}{r} 1 \\ 1794 \overline{) 2346} \\ \underline{-1794} \\ 552 \\ 552 \overline{) 1794} \left(3 \right. \\ \underline{-1656} \\ 138 \\ 138 \overline{) 552} \left(4 \right. \\ \underline{-552} \\ 0 \end{array}$$

So, the HCF of 1794 and 2346 is 138.

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

$$\begin{array}{r} 34 \\ 138 \overline{) 4761} \\ \underline{-4692} \\ 69 \\ 69 \overline{) 138} \left(2 \right. \\ \underline{-138} \\ 0 \end{array}$$

So, the HCF of 138 and 4761 is 69.

\therefore The HCF of 1794, 2346 and 4761 is 69.

Q19

Answer :

The given numbers are 59 and 97.

$$59 = 59 \times 1$$

$$97 = 97 \times 1$$

$$\therefore \text{HCF} = 1$$

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:

$$\begin{array}{r}
 2 \overline{) 192} \\
 2 \overline{) 96} \\
 2 \overline{) 48} \\
 2 \overline{) 24} \\
 2 \overline{) 12} \\
 2 \overline{) 6} \\
 3
 \end{array}
 \qquad
 \begin{array}{r}
 7 \overline{) 161} \\
 23 \overline{) 23} \\
 1
 \end{array}$$

Now, $161 = 7 \times 23 \times 1$

$192 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 3 = 2^6 \times 3 \times 1$

$\therefore \text{HCF} = 1$

Hence, 161 and 192 are co-primes.

Q21

Answer :

The given numbers are 343 and 432.

We have:

$$\begin{array}{r}
 2 \overline{) 432} \\
 2 \overline{) 216} \\
 2 \overline{) 108} \\
 2 \overline{) 54} \\
 3 \overline{) 27} \\
 3 \overline{) 9} \\
 3 \overline{) 3} \\
 1
 \end{array}
 \qquad
 \begin{array}{r}
 7 \overline{) 343} \\
 7 \overline{) 49} \\
 7 \overline{) 7} \\
 1
 \end{array}$$

Now, $343 = 7 \times 7 \times 7 \times 1 = 7^3 \times 1$

$432 = 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 3 = 2^4 \times 3^3 \times 1$

$\therefore \text{HCF} = 1$

$$\therefore \text{HCF} = 1$$

Hence, 343 and 432 are co-primes.

Q22

Answer :

Given numbers are 512 and 945.

We have:

$$2 \overline{) 512}$$

$$2 \overline{) 256}$$

$$2 \overline{) 128}$$

$$2 \overline{) 64}$$

$$2 \overline{) 32}$$

$$2 \overline{) 16}$$

$$2 \overline{) 8}$$

$$2 \overline{) 4}$$

$$2 \overline{) 2}$$

1

$$3 \overline{) 945}$$

$$3 \overline{) 315}$$

$$3 \overline{) 105}$$

$$5 \overline{) 35}$$

$$7 \overline{) 7}$$

1

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

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

Thus, the HCF of 512 and 945 is 1.

\therefore 512 and 945 are co-primes.

Q23

Answer :

The given numbers are 385 and 621.

$\begin{array}{r} 5 \overline{) 385} \\ \underline{35} \\ 35 \\ \underline{35} \\ 0 \end{array}$	$\begin{array}{r} 3 \overline{) 621} \\ \underline{6} \\ 0 \\ \underline{0} \\ 0 \end{array}$
$\begin{array}{r} 7 \overline{) 77} \\ \underline{7} \\ 0 \end{array}$	$\begin{array}{r} 3 \overline{) 207} \\ \underline{6} \\ 0 \\ \underline{0} \\ 0 \end{array}$
$\begin{array}{r} 11 \overline{) 11} \\ \underline{11} \\ 0 \end{array}$	$\begin{array}{r} 3 \overline{) 69} \\ \underline{6} \\ 0 \end{array}$
$\begin{array}{r} 1 \\ \underline{1} \\ 0 \end{array}$	$\begin{array}{r} 23 \overline{) 23} \\ \underline{23} \\ 0 \end{array}$
	$\begin{array}{r} 1 \\ \underline{1} \\ 0 \end{array}$

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