

PARAGON CONVENT SCHOOL

SECTOR – 24 B , CHANDIGARH

ANSWER KEY

CLASS – 6

SUB – MATHS

EXERCISE – 3C

Q-1. Find the HCF of the following numbers by prime factorisation-

(a) 12 , 16

$$\begin{array}{r|l} 2 & 12 \\ \hline 2 & 6 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

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

Factors of 12 = $2 \times 2 \times 3$

Factors of 16 = $2 \times 2 \times 2 \times 2$

Common factors are = 2×2

So , HCF of 12 and 16 = $2 \times 2 = 4$

(b) 54 , 72

$$\begin{array}{r|l} 2 & 54 \\ \hline 3 & 27 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

$$\begin{array}{r|l} 2 & 72 \\ \hline 2 & 36 \\ \hline 2 & 18 \\ \hline 3 & 9 \\ \hline 3 & 3 \\ \hline & 1 \end{array}$$

Factors of 54 = $2 \times 3 \times 3 \times 3$

Factors of 72 = $2 \times 2 \times 2 \times 3 \times 3$

Common factors are = $2 \times 3 \times 3$

So , HCF of 54 and 72 = $2 \times 3 \times 3 = 18$

(c) 30 , 96

$$\begin{array}{r|l} 2 & 2, 4, 6, 8 \\ & 1, 2, 3, 4 \end{array}$$

HCF of 32, 64, 96, 128 = $2 \times 2 \times 2 \times 2 \times 2 = 32$

(c) 70, 105, 175

$$\begin{array}{r|l} 5 & 70, 105, 175 \\ \hline 7 & 14, 21, 35 \\ \hline & 2, 3, 5 \end{array}$$

HCF of 70, 105 and 175 = $5 \times 7 = 35$

Q-3. Find the HCF of the following groups of numbers using the long division method –

(a) 144, 198

$$\begin{array}{r} 144 \overline{)198} \quad 1 \\ \underline{-144} \\ 54 \overline{)144} \quad 2 \\ \underline{-108} \\ 36 \overline{)54} \quad 1 \\ \underline{-36} \\ 18 \overline{)36} \quad 2 \\ \underline{-36} \\ 00 \end{array}$$

HCF of 144 and 198 = 18

(c) 144, 180, 384

$$\begin{array}{r} 144 \overline{)180} \quad 1 \\ \underline{-144} \\ 36 \overline{)144} \quad 4 \\ \underline{-144} \\ 000 \end{array}$$

$$\begin{array}{r} 36 \overline{)384} \quad 1 \\ \underline{-36} \\ 24 \overline{)36} \quad 1 \\ \underline{-24} \\ 12 \overline{)24} \quad 2 \\ \underline{-24} \\ 000 \end{array}$$

0

HCF of 144, 180 and 384 = 12

(d) 45, 60, 330

$$\begin{array}{r} 45 \overline{) 60} \quad 1 \\ \underline{-45} \\ 15 \quad 45 \quad 3 \\ \underline{-45} \\ 00 \end{array}$$

$$15 \overline{) 330} \quad 22$$

HCF of 45, 60 and 330 = 15

$$\begin{array}{r} - 30 \\ \underline{\quad} \\ 30 \\ - 30 \\ \underline{\quad} \\ 00 \end{array}$$