

① i) 16 and 35 =

16 = 1, 2, 4, 8, 16

35 = 1, 5, 7, 35

HCF = 1

ii) 25, 20

25 = 1, 5, 25

20 = 1, 2, 4, 5, 10, 20

HCF = 5

iii) 25, 75 =

25 = 1, 5, 25

75 = 1, 3, 5, 15, 25, 75

HCF = 25

iv) 8, 12 and 18

8 = 1, 2, 4, 8

12 = 1, 2, 3, 4, 6, 12

18 = 1, 2, 3, 6, 9, 18

HCF = 2

v) 24, 36, 45 and 60

24 = 1, 2, 3, 4, 6, 8, 12, 24

36 = 1, 2, 3, 4, 6, 9, 12, 36

45 = 1, 3, 5, 9, 15, 45

60 = 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60

HCF = 3

2. ii) 5 and 8

$$5 = 1 \times 5$$

$$8 = 1 \times 2 \times 2 \times 2$$

$$\text{HCF} = 1$$

ii) 24 and 49

$$24 = 2 \times 2 \times 3 \times 2$$

$$49 = 7 \times 7$$

$$\text{HCF} = 1$$

iii) 40, 60 and 80

$$40 = 2 \times 2 \times 5 \times 2$$

$$60 = 2 \times 3 \times 5 \times 2$$

$$80 = 2 \times 2 \times 5 \times 2 \times 2$$

$$\text{HCF} = \cancel{2 \times 2 \times 4} = 2 \times 2 \times 5 = 20$$

iv) 48, 84 and 88

$$48 = 2 \times 2 \times 3 \times 2 \times 2$$

$$84 = 2 \times 3 \times 7 \times 2$$

$$88 = 2 \times 11 \times 2 \times 2$$

$$\text{HCF} = 2 \times 2 = 4$$

v) 12, 16 and 28 =

$$12 = 2 \times 3 \times 2$$

$$16 = 2 \times 2 \times 2 \times 2$$

$$28 = 2 \times 7 \times 2$$

$$\text{HCF} = 2 \times 2 = 4$$

3. i) 16 and 24

$$\begin{array}{r} 16 \overline{) 24} \quad | \quad 1 \quad 2 \\ \underline{-16} \\ 8 \end{array}$$

$$\begin{array}{r} 8 \overline{) 16} \quad | \quad 2 \\ \underline{-16} \\ 0 \end{array}$$

$$\text{HCF} = 8$$

$$\begin{array}{r} 8 \overline{) 16} \quad | \quad 2 \\ \underline{-16} \\ 0 \end{array}$$

ii) 18 and 30

$$\begin{array}{r} 18 \overline{) 30} \quad | \quad 1 \quad 6 \\ \underline{-18} \\ 12 \end{array}$$

$$\begin{array}{r} 6 \overline{) 18} \quad | \quad 3 \\ \underline{-18} \\ 0 \end{array}$$

$$\text{HCF} = 6$$

$$\begin{array}{r} 6 \overline{) 12} \quad | \quad 2 \\ \underline{-12} \\ 0 \end{array}$$

iii) 7, 14 and 24

$$\begin{array}{r}
 14 \overline{) 24} \quad | \quad 1 \\
 \underline{- 14} \\
 10 \overline{) 14} \quad | \quad 1 \\
 \underline{- 10} \\
 4 \overline{) 10} \quad | \quad 2 \\
 \underline{- 8} \\
 2 \overline{) 4} \quad | \quad 2 \\
 \underline{- 4} \\
 0
 \end{array}$$

$$\begin{array}{r}
 2 \overline{) 7} \quad | \quad 3 \\
 \underline{- 6} \\
 1
 \end{array}$$

HCF = 1

iv) 70, 80, 120 and 150

$$\begin{array}{r}
 120 \overline{) 150} \quad | \quad 1 \\
 \underline{- 120} \\
 30 \overline{) 120} \quad | \quad 4 \\
 \underline{- 120} \\
 0
 \end{array}$$

$$\begin{array}{r}
 30 \overline{) 120} \quad | \quad 4 \\
 \underline{- 120} \\
 0
 \end{array}$$

$$\begin{array}{r}
 30 \overline{) 80} \quad | \quad 2 \\
 \underline{- 60} \\
 20 \overline{) 30} \quad | \quad 1 \\
 \underline{- 20} \\
 10 \overline{) 20} \quad | \quad 2 \\
 \underline{- 20} \\
 0
 \end{array}$$

$$\begin{array}{r}
 10 \overline{) 70} \quad | \quad 7 \\
 \underline{- 70} \\
 0
 \end{array}$$

HCF = 10

v.) 32, 56 and 46

$$\begin{array}{r} 46 \overline{) 56} \quad 1 \\ \underline{-46} \\ 10 \end{array}$$
$$\begin{array}{r} 2 \overline{) 32} \quad 16 \\ \underline{-2} \\ 12 \\ \underline{-12} \\ 0 \end{array}$$
$$\begin{array}{r} 10 \overline{) 46} \quad 4 \\ \underline{-40} \\ 6 \end{array}$$

$$\begin{array}{r} 6 \overline{) 10} \quad 1 \\ \underline{-6} \\ 4 \end{array}$$

$$\begin{array}{r} 4 \overline{) 6} \quad 1 \\ \underline{-4} \\ 2 \end{array}$$

HCF = 2

$$\begin{array}{r} 2 \overline{) 4} \quad 2 \\ \underline{-4} \\ 0 \end{array}$$

4.

i) 45, 75 and 135

$$\begin{array}{r} 75 \overline{) 135} \quad 1 \\ \underline{-75} \\ 60 \end{array}$$

$$\begin{array}{r} 60 \overline{) 75} \quad 1 \\ \underline{-60} \\ 15 \end{array}$$

$$\underline{-60}$$

$$\begin{array}{r} 15 \overline{) 60} \quad 4 \\ \underline{-60} \\ 0 \end{array}$$

$$\underline{-60}$$

HCF = 15

ii) 48, 36 and 96

$$\begin{array}{r} 48 \overline{) 96} \quad 2 \\ \underline{-96} \\ 0 \end{array}$$

$$\begin{array}{r} 36 \overline{) 48} \quad 1 \\ \underline{-36} \end{array}$$

$$\begin{array}{r} 18 \overline{) 36} \quad 2 \\ \underline{-36} \\ 0 \end{array}$$

$$\begin{array}{r} 12 \overline{) 96} \quad 8 \\ \underline{-96} \\ 0 \end{array}$$

HCF = 12

iii) 66, 33 and 132

$$\begin{array}{r} 33 \overline{) 66} \quad 2 \\ \underline{-66} \\ 0 \end{array}$$

$$\begin{array}{r} 33 \overline{) 132} \quad 4 \\ \underline{-132} \\ 0 \end{array}$$

HCF = 33

iv) 24, 36, 60 and 132

$$\begin{array}{r} 12 \overline{) 60} \quad 5 \\ \underline{-60} \\ 0 \end{array}$$

$$\begin{array}{r} 60 \overline{) 132} \quad 2 \\ \underline{-120} \end{array}$$

$$\begin{array}{r} 12 \overline{) 60} \quad 5 \\ \underline{-60} \\ 0 \end{array}$$

$$\begin{array}{r} 12 \overline{) 36} \quad 3 \\ \underline{-36} \\ 0 \end{array}$$

$$\begin{array}{r} 12 \overline{) 24} \quad 2 \\ \underline{-24} \\ 0 \end{array}$$

HCF = 12

v.) 30, 60, 90 and 105

$$\begin{array}{r}
 90 \overline{) 105} \quad 1 \\
 \underline{- 90} \\
 15 \overline{) 60} \quad 4 \\
 \underline{- 60} \\
 0 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 15 \overline{) 30} \quad 2 \\
 \underline{- 30} \\
 0 \\
 \hline
 \end{array}$$

HCF = 15

5.) The greatest number that divides each of 180, 225 and 315 is

$$\begin{array}{r}
 225 \overline{) 315} \quad 1 \\
 \underline{- 225} \\
 90 \overline{) 225} \quad 2 \\
 \underline{- 180} \\
 45 \overline{) 90} \quad 2 \\
 \underline{- 90} \\
 0 \\
 \hline
 \end{array}$$

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So the greatest number (HCF) that divides each of 180, 225 and 315 is 45.

6.

$$\begin{array}{r}
 45 \overline{) 56} \quad 1 \\
 \underline{- 45} \\
 11 \overline{) 45} \quad 4 \\
 \underline{- 44} \\
 1 \overline{) 11} \quad 1 \\
 \underline{- 11} \\
 0 \\
 \hline
 \end{array}$$

Yes, 45 and 56 are co prime numbers.

7.)

15 = 1, 3, 5, 15

16 = 1, 2, 4, 8, 16 pairs are 15 and 16, 16 and 21

21 = 1, 3, 7, 21

15 and 28

28 = 1, 2, 4, 7, 14, 28

8.)

93 = 90

111 = 108

129 = 126

$$\begin{array}{r} 108 \overline{) 126} \quad 1 \\ \underline{108} \\ 18 \end{array}$$

$\underline{108}$

$$\begin{array}{r} 18 \overline{) 108} \quad 6 \\ \underline{108} \\ 0 \end{array}$$

$\underline{108}$

0

$$\begin{array}{r} 18 \overline{) 90} \quad 5 \\ \underline{90} \\ 0 \end{array}$$

$\underline{90}$

0

HCF = 18