

Exercise 8 (B)

i) $16 = 1, 2, 4, 8, 16$
 $35 = 1, 5, 7, 35$
Common factor = 1
HCF = 1

ii) $25 = 1, 5, 25$
 $20 = 1, 2, 4, 5, 10, 20$
Common factor = 2, 5
HCF = 5

iii) $27 = 1, 3, 9, 27$
 $75 = 1, 3, 5, 15, 25, 75$
Common factor = 2, 3
HCF = 3

iv) $8 = 1, 2, 4, 8$
 $12 = 1, 2, 3, 4, 6, 12$
 $18 = 1, 2, 3, 6, 9, 18$
Common factor = 1, 2, ~~3~~, ~~4~~, ~~6~~
HCF = 2

v) $24 = 1, 2, 3, 4, 6, 8, 12, 24$
 $36 = 1, 2, 3, 4, 6, 9, 12, 18, 36$
 $45 = 1, 3, 5, 9, 15, 45$
 $60 = 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60$
Common factor = ~~1, 2, 3~~ 1, 3
HCF = 3

✓

Q1) $5=5$

$8=2 \times 2 \times 2$

There is no common factor

HCF = 1

ii) $24=2 \times 2 \times 2 \times 3$

$49=7 \times 7$

There is no common factor

HCF = 1

iii) $40=2 \times 2 \times 2 \times 5$

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

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

Common factor = $2 \times 2 \times 5$

HCF = $2 \times 2 \times 5 = 20$

iv) $48=2 \times 2 \times 2 \times 2 \times 3$

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

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

Common factor = 2×2

HCF = $2 \times 2 = 4$

v) $12=2 \times 2 \times 3$

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

$28=2 \times 2 \times 7$

Common factors = 2×2

HCF = $2 \times 2 = 4$

3) i)

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

$$\begin{array}{r|l} 2 & 24 \\ \hline 2 & 12 \\ \hline 2 & 6 \\ \hline 3 & 2 \end{array}$$

=
HCF

$$\begin{array}{r}
 \textcircled{3)} \quad 16 \overline{) 24} \quad | \quad 1 \\
 \underline{16} \\
 8 \overline{) 16} \quad | \quad 2 \\
 \underline{16} \\
 0 \qquad \qquad \text{HCF} = 8
 \end{array}$$

$$\begin{array}{r}
 \text{ii)} \quad 18 \overline{) 30} \quad | \quad 1 \\
 \underline{18} \\
 12 \overline{) 18} \quad | \quad 1 \\
 \underline{12} \\
 6 \overline{) 12} \quad | \quad 2 \\
 \underline{12} \\
 0 \qquad \qquad \text{HCF} = 6
 \end{array}$$

$$\begin{array}{r}
 \text{iii)} \quad 7 \overline{) 14} \quad | \quad 2 \\
 \underline{14} \\
 0
 \end{array}$$

$$\begin{array}{r}
 7 \overline{) 24} \quad | \quad 3 \\
 \underline{21} \\
 3 \overline{) 7} \quad | \quad 2 \\
 \underline{6} \\
 1 \overline{) 3} \quad | \quad 3 \\
 \underline{3} \\
 0 \qquad \qquad \text{HCF} = 1
 \end{array}$$

$$\begin{array}{r}
 \text{iv)} \quad 70 \overline{) 80} \quad | \quad 1 \\
 \underline{70} \\
 10 \overline{) 70} \quad | \quad 7 \\
 \underline{70} \\
 0
 \end{array}$$

$$\begin{array}{r}
 10 \overline{) 120} \quad | \quad 12 \\
 \underline{120} \\
 0 \\
 10 \overline{) 150} \quad | \quad 15 \\
 \underline{150} \\
 0
 \end{array}$$

HCF = 10

$$\begin{array}{r}
 \text{v) } 32 \overline{) 56} \quad | \quad 1 \\
 \underline{32} \\
 24 \overline{) 32} \quad | \quad 1 \\
 \underline{24} \\
 8 \overline{) 24} \quad | \quad 3 \\
 \underline{24} \\
 0
 \end{array}$$

$$\begin{array}{r}
 8 \overline{) 46} \quad | \quad 5 \\
 \underline{40} \\
 6 \overline{) 8} \quad | \quad 1 \\
 \underline{6} \\
 2 \overline{) 6} \quad | \quad 3 \\
 \underline{6} \\
 0 \quad \text{HCF} = 2
 \end{array}$$

④) Factor of 45 = $3 \times 3 \times 5$
 Factor of 75 = $3 \times 5 \times 5$
 Factor of 135 = $3 \times 3 \times 3 \times 5$
 Common factor = 3 and 5
 HCF = $3 \times 5 = 15$

11) $66 = 2 \times 3 \times 11$
 $33 = 3 \times 11$
 $132 = 2 \times 2 \times 3 \times 11$
 Common factor = 3, 11
 HCF = $3 \times 11 = 33$

11) $48 = 2 \times 2 \times 2 \times 2 \times 3$
 $36 = 2 \times 2 \times 3 \times 3$
 $96 = 2 \times 2 \times 2 \times 2 \times 2 \times 3$
 Common factor = 2, 2, 3
 HCF = $2 \times 2 \times 3 = 12$

Ans

$$iv) 24 = 2 \times 2 \times 2 \times 3$$

$$36 = 2 \times 2 \times 3 \times 3$$

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

$$132 = 2 \times 2 \times 3 \times 11$$

Common factor - 2, 2, 3

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

$$v) 30 = ~~2 \times 3 \times 5~~ 2 \times 3 \times 5$$

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

$$90 = 2 \times 3 \times 3 \times 5$$

$$105 = 3 \times 5 \times 7$$

Common factor = 3, 5

$$HCF = 3 \times 5 = 15$$

$$5b) \begin{array}{r} 180 \overline{) 225} \quad | \quad 1 \\ 180 \\ \hline \end{array}$$

$$45 \overline{) 180} \quad | \quad 4$$

$$180 \\ \hline 0$$

$$45 \overline{) 315} \quad | \quad 7$$

$$315 \\ \hline 0$$

$$0$$

HCF of 180, 225 and 315 = 45.

$$6) \begin{array}{r} 45 \overline{) 56} \quad | \quad 1 \\ 45 \\ \hline \end{array}$$

$$11 \overline{) 45} \quad | \quad 4$$

$$44 \\ \hline 1 \quad | \quad 11 \quad | \quad 11$$

$$11 \\ \hline 11$$

$$11 \\ \hline 0$$

$$0$$

HCF = 1

HCF of two co-prime number = HCF of 45 and 56.

So 45 and 56 are co-prime numbers.

mark

7) Pair = 15, 16 ; 16, 21 ; 21, 28 ; 15, 28 ; 16, 28

HCF of 15 and 16 =

$$\begin{array}{r|l|l} 15 & 16 & 1 \\ \hline 15 & & \\ \hline 1 & 15 & 1 \\ \hline 15 & & \\ \hline 0 & & \end{array}$$

HCF = 1

HCF of 16 and 21 =

$$\begin{array}{r|l|l} 16 & 21 & 1 \\ \hline 16 & & \\ \hline 5 & 16 & 3 \\ \hline 15 & & \\ \hline 1 & 5 & 1 \\ \hline 5 & & \\ \hline 0 & & \end{array}$$

HCF = 1

HCF of 21 and 28 = 7

HCF of 15 and 28 =

$$\begin{array}{r|l|l} 15 & 28 & 1 \\ \hline 15 & & \\ \hline 13 & 15 & 1 \\ \hline 13 & & \\ \hline 2 & 13 & 6 \\ \hline 12 & & \\ \hline 1 & 2 & 1 \\ \hline 2 & & \\ \hline 0 & & \end{array}$$

HCF = 1

HCF of 16 and 28 =

$$\begin{array}{r|l|l} 16 & 28 & 1 \\ \hline 16 & & \\ \hline 12 & 16 & 1 \\ \hline 12 & & \\ \hline 4 & 12 & 3 \\ \hline 12 & & \\ \hline 0 & & \end{array}$$

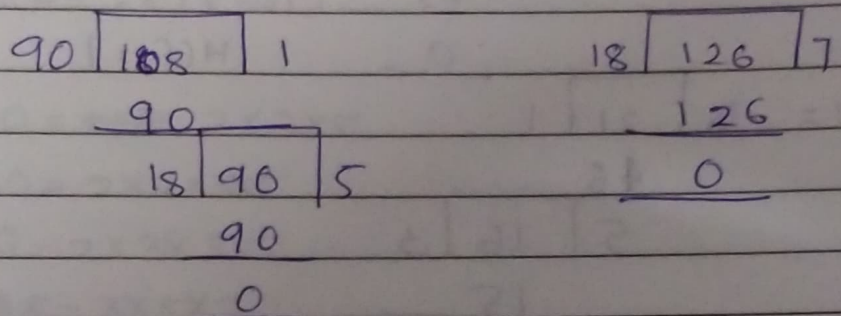
HCF = 4

The co-prime pairs are - 15 and 16, 16 and 21, 15 and 28.

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8) $93 - 3 = 90$
 $111 - 3 = 108$
 $129 - 3 = 126$

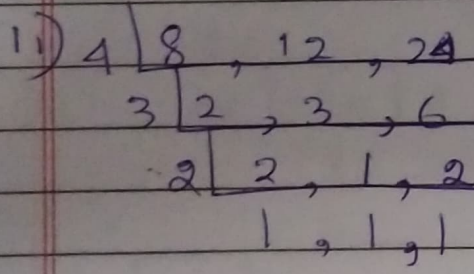
HCF of 90, 108, 126



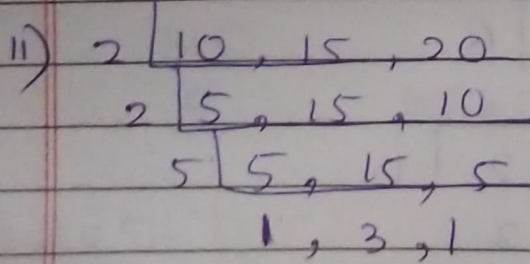
The greatest number will be 18.

Exercise - 8(c)

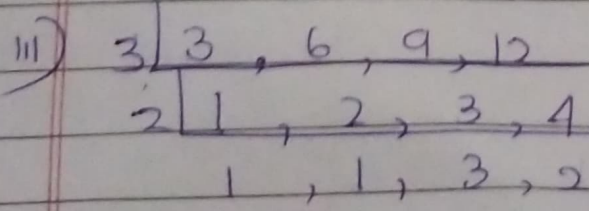
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$LCM = 4 \times 3 \times 2 = 24$



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



$LCM = 3 \times 2 \times 3 \times 2 = 36$