

Exercise 8(B)

1 (i) 16 and 35

~~16 35~~ ~~10x35~~

$$\begin{array}{r} \cancel{=} \\ \cancel{\times} \\ \cancel{+} \\ \cancel{4} \\ \cancel{5} \end{array} \begin{array}{r} \cancel{16} \\ \cancel{35} \\ \cancel{80} \\ \cancel{80} \\ \cancel{560} \end{array}$$

~~HCF = 560~~

HCF = 1

(ii) 25 and 20

$$\begin{array}{l} 5 \mid 25, 20 \\ 5, 4 \end{array}$$

HCF = 5

(iii) 27 and 75

$$\begin{array}{l} 3 \mid 27, 75 \\ 9, 25 \end{array}$$

HCF = 3

(iv) 8, 12, 18

$$\begin{array}{l} 2 \mid 8, 12, 18 \\ 2 \mid 4, 6, 9 \\ 3 \mid 2, 3, 9 \\ 2, 1, 3 \end{array}$$

HCF = $2 \times 2 \times 3$

= 12

(v) 24, 36, 45 and 60

$$5 \mid 24, 36, 45, 60$$

$$3 \mid 24, 36, 9, 12$$

$$3 \mid 24, 12, 3, 4$$

$$4 \mid 24, 4, 1, 4$$

$$23, 1, 1, 1$$

$$\begin{aligned} \text{HCF} &= 5 \times 3 \times 3 \times 4 \\ &= 180 \end{aligned}$$

70) 5 and 8

$$\text{HCF} = 1$$

80) 24 and 49

$$\underline{24, 49} \quad \text{HCF} = 1$$

90) 40, 60 and 80

$$2 \mid 40, 60, 80$$

$$2 \mid 20, 30, 40$$

$$5 \mid 10, 15, 20$$

$$2 \mid 2, 3, 4$$

$$1, 3, 2$$

$$\begin{aligned} \text{HCF} &= 2 \times 2 \times 5 \times 2 \\ &= 40 \end{aligned}$$

(iv) 48, 84, 88

$$4 \overline{) 48, 84, 88}$$

$$3 \overline{) 12, 21, 44}$$

$$4 \overline{) 4, 7, 44}$$

$$1, 7, 11$$

$$\begin{aligned} \text{HCF} &= 4 \times 3 \times 4 \\ &= 48 \end{aligned}$$

(v) 12, 16, 28

$$2 \overline{) 12, 16, \text{and } 28}$$

$$2 \overline{) 6, 8, 14}$$

$$3, 4, 7$$

$$\begin{aligned} \text{HCF} &= 2 \times 2 \\ &= 4 \end{aligned}$$

3ii) 16 and 24

$$4 \overline{) 16, 24}$$

$$2 \overline{) 4, 6}$$

$$2, 3$$

$$\text{HCF} = 4 \times 2 = 8$$

(ii) 18 and 30

$$3 \overline{) 18, 30}$$

$$2 \overline{) 6, 10}$$

$$3, 5$$

$$\text{HCF} = 3 \times 2 = 6$$

(iii) 7, 14 and 24

$$\begin{array}{r}
 7 \overline{) 7, 14, 24} \\
 \underline{2 \overline{) 1, 2, 24}} \\
 1, 1, 12
 \end{array}$$

HCF = $7 \times 2 = 14$

(iv) 70, 80, 120, 150

$$\begin{array}{r}
 5 \overline{) 70, 80, 120, 150} \\
 \underline{16, 17} \\
 5 \overline{) 70, 80, 120, 150} \\
 3 \overline{) 14, 16, 24, 30} \\
 2 \overline{) 4, 16, 8, 10} \\
 2 \overline{) 7, 8, 4, 5} \\
 2 \overline{) 7, 4, 2, 5} \\
 7, 2, 1, 5
 \end{array}$$

HCF = $5 \times 3 \times 2 \times 2 = 120$

(v) 32, 56 and 46

$$\begin{array}{r}
 2 \overline{) 32, 56, 46} \\
 4 \overline{) 16, 28, 23} \\
 4 \overline{) 7, 23}
 \end{array}$$

HCF = $2 \times 4 = 8$

4 → (i) 45, 75 and 135

$$\begin{array}{r|l}
 3 & 45, 75, 135 \\
 \hline
 5 & 15, 25, 45 \\
 \hline
 3 & 3, 5, 9 \\
 \hline
 & 1, 5, 3
 \end{array}$$

$$\begin{aligned}
 \text{HCF} &= 5 \times 3 \times 3 \\
 &= 45
 \end{aligned}$$

(ii) 48, 36 and 96

$$\begin{array}{r|l}
 2 & 48, 36, 96 \\
 \hline
 2 & 24, 18, 48 \\
 \hline
 2 & 12, 9, 24 \\
 \hline
 2 & 6, 9, 12 \\
 \hline
 3 & 3, 9, 6 \\
 \hline
 & 1, 3, 2
 \end{array}$$

$$\begin{aligned}
 \text{HCF} &= 2 \times 2 \times 2 \times 2 \times 3 \\
 &= 48
 \end{aligned}$$

(iii) 66, 33 and 132

$$\begin{array}{r|l}
 3 & 66, 33, 132 \\
 \hline
 2 & 22, 11, 44 \\
 \hline
 & 11, 11, 22
 \end{array}$$

~~HCF =~~

$$\text{HCF} = 3 \times 2 = 6$$

(iv) 24, 36, 60 and 132

$$\begin{array}{r}
 2 \mid 24, 36, 60, 132 \\
 2 \mid 12, 18, 30, 66 \\
 3 \mid 6, 9, 15, 33 \\
 3 \mid 2, 3, 5, 11
 \end{array}$$

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

(v) 30, 60, 90 and 105

$$\begin{array}{r}
 2 \mid 30, 60, 90, 105 \\
 5 \mid 15, 30, 45, 105 \\
 3 \mid 3, 6, 9, 21 \\
 1, 2, 3, 7
 \end{array}$$

HCF = $2 \times 3 \times 5 = 30$

5) 180, 225 and 315

$$\begin{array}{r}
 5 \mid 180, 225, 315 \\
 3 \mid 36, 45, 63 \\
 3 \mid 12, 15, 21 \\
 4, 5, 7
 \end{array}$$

HCF = $5 \times 3 \times 3 = 45$

6) $45 = 1, 3, 5, 9, 15, 45$ So, here we can
 $56 = 1, 2, 4, 7, 8, 56$ see that the
 common no. in between
 45 and 56 is 1. So, it is a coprime set.

$\Rightarrow 15, 16 ; 15 \text{ and } 28.$

$\Rightarrow 93 - 3 = 90$

$111 - 3 = 108$

$129 - 3 = 126$

HCF of 90, 108, 126 is \div

$$2 \mid 90, 108, 126$$

$$3 \mid 45, 54, 13$$

$$3 \mid 15, 18, 13$$

$$5, 6, 13$$

So, the hcf

is $2 \times 3 \times 3$

$= 18$