Exercise 8 (B)

1 Using the common factor method, find the HCF of:

(i) 16 - 1, 2, 4, 8, 16
35 - 1, 5, 7, 35
HCF = 1

(ii) 25 - 1, 5, 25
20 - 1, 2, 4, 5, 10, 20
HCF = 5

(iii) 27 - 1, 3, 9, 27
75 - 1, 3, 5, 15, 25, 75
HCF = 3

(iv) 8, 12, 18

8 - 1, 2, 4, 8

12 - 1, 2, 3, 4, 6, 12

18 - 1, 2, 3, 6, 8, 18

HCF = 2

(v) 24, 36, 45, 60

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

36 - 1, 2, 3, 4, 6, 8, 12, 18, 36

45 - 1, 5, 9, 45

HCF = 1

2 Using the prime factor method, Find the HCF of:

(i) 5 and 8 - 5 = 5 X 1 , 8 = 8 X 1 | HCF = 1

(ii) 24 and 49 - 24 = 12 X 2 , 49 = 7 X 7 | HCF = 1

(iii) 40, 60 and 80 - 40 = 4 X 10, 60 = 6 X 10, 8 = 8 X 10 | HCF = 10

(iv) 48, 84 and 88 - 48 = 24 X 2, 84 = 42 X 2, 88 = 44 X 2 | HCF = 2

(v) 12, 16 and 28 - 12 = 3 X 4, 16 = 4 X 4, 28 = 4 X 7 | HCF = 4

3 Using the division method, find the HCF of the following:

(i) 16 and 24

$$\begin{array}{r} 16\overline{)24}(1 \\ -16 \\ \hline 8\overline{)16}(2 \\ -16 \\ \hline 0 \end{array}$$

HCF = 8

(ii) 18 and 30

$$\begin{array}{r} 18\overline{)30}(1 \\ -18 \\ \hline 12\overline{)18}(1 \\ -12 \\ \hline 6\overline{)12}(2 \\ -12 \\ \hline 0 \end{array}$$

HCF = 6

(iii) 7, 14 and 24

$$\begin{array}{r} 7\overline{)14}(2 \\ -14 \\ \hline 0 \end{array} \qquad \begin{array}{r} 7\overline{)24}(3 \\ -21 \\ \hline 3\overline{)7}(2 \\ -6 \\ \hline 1\overline{)3}(1 \\ -3 \\ \hline 0 \end{array}$$

HCF = 1

(iv) 70, 80, 120 and 150

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70)80(1          10)120(12          10)150(15
 -70               -120               -150
 10)70(7             0                  0
  -70
   0
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HCF = 10

(v) 32, 56 and 46

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32)56(1          8)46(5
 -32              -40
 24)32(1          06)8(1
  -24              -6
  08)24(3          2)6(3
   -24              -6
    0                0
```

HCF = 2

4 Use a method of your own choice to find the HCF of:

(i) 45, 75 and 135

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45)75(1          15)135(9
 -45              -135
 30)45(1           0
  -30
  15)30(2
   -30
    0
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HCF = 15

(ii) 48, 36 and 96

$48 = 6 \times 8$ 12×4

$36 = 6 \times 6$ 12×3 HCF = 12

$96 = 12 \times 8$

(iii) 66, 33, and 132

$33\overline{)66}\,(2$ $\quad$ $33\overline{)132}\,(4$

-66 $\quad$ -132 $\quad$ HCF = 33

0 $\quad$ 0

(iv) 24, 36, 60 and 132

$24 = 12 \times 2$

$36 = 12 \times 3$

HCF = 12

$60 = 12 \times 5$

$132 = 12 \times 11$

(v) 30, 60, 90 and 105

$30\overline{)60}\,(2$ $\quad$ $30\overline{)90}\,(3$ $\quad$ $30\overline{)105}\,(3$

-60 $\quad$ -90 $\quad$ -90

0 $\quad$ 0 $\quad$ $15\overline{)30}\,(2$

-30

0

HCF = 15

5 Find the greatest number that divides each of 180, 225 and 315 completely.

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225)315(1          45)180(4
-225               -180
 90)225(2            0
-180
 45)90(2
-90
  0
```

HCF = 45

6 ~~Find the gre~~ Show that 45 and 56 are co-prime numbers.

45 = 9 X 5

56 = 7 X 8

They have no common factor they are co-prime numbers.

7 ~~Of~~ Out of 15, 16, 21 and 28, find out all the pairs of co-prime numbers.

15 and 16 , 15 and 28, 16 and 21

8 Find the greatest number that will divide 93, 111 and 129, leaving remainder 3 in each case.

93 - 3 = 90, 111 - 3 = 108, 129 - 3 = 126

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108)126(1          18)90(5
-108               -90
 18)108(6            0
-108
  0
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HCF = 18