

Find the prime factors of

(a) 36

$$\begin{array}{r} 2 \overline{) 36} \\ \underline{24} \phantom{0} \\ 12 \phantom{0} \\ 2 \overline{) 12} \\ \underline{12} \\ 0 \end{array}$$

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

$\therefore$  Prime factors are  
2, 2, 3, 3

(b) 112

$$\begin{array}{r} 2 \overline{) 112} \\ \underline{22} \phantom{0} \\ 112 \\ 2 \overline{) 56} \\ \underline{56} \\ 0 \end{array}$$

$$112 = 2^4 \times 7$$

$\therefore$  Prime factors are  
2, 2, 2, 2, 7

(c) 143

$$\begin{array}{r} 11 \overline{) 143} \\ \underline{132} \\ 11 \phantom{0} \\ 11 \overline{) 11} \\ \underline{11} \\ 0 \end{array}$$

$$143 = 11 \times 13$$

$\therefore$  Prime factors are  
11 and 13

Find the HCF by the method of division

(2)

24, 36

$$\begin{array}{r} 24 \overline{) 36} (1 \\ \underline{24} \phantom{0} \\ 12 \phantom{0} \end{array}$$

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

$$\text{HCF} = 12$$

$$(4) \quad 780, 1001$$

$$780 \overline{) 1001} \begin{array}{l} 1 \\ \cdot 780 \end{array}$$

$$\underline{\hspace{1cm}} 221 \overline{) 780} \begin{array}{l} 3 \\ 663 \end{array}$$

$$\underline{\hspace{1cm}} 117 \overline{) 221} \begin{array}{l} 1 \\ 117 \end{array}$$

$$\underline{\hspace{1cm}} 104 \overline{) 117} \begin{array}{l} 1 \\ 104 \end{array}$$

$$\underline{\hspace{1cm}} 13 \overline{) 104} \begin{array}{l} 8 \\ 104 \\ \hline \times \end{array}$$

$$\therefore \text{HCF} = 13$$

$$(7) \quad 462, 3575$$

$$462 \overline{) 3575} \begin{array}{l} 7 \\ 3234 \end{array}$$

$$\underline{\hspace{1cm}} 341 \overline{) 462} \begin{array}{l} 1 \\ 341 \end{array}$$

$$\underline{\hspace{1cm}} 121 \overline{) 341} \begin{array}{l} 2 \\ 242 \end{array}$$

$$\underline{\hspace{1cm}} 99 \overline{) 121} \begin{array}{l} 1 \\ 99 \end{array}$$

$$\underline{\hspace{1cm}} 22 \overline{) 99} \begin{array}{l} 4 \\ 88 \end{array}$$

$$\underline{\hspace{1cm}} 11 \overline{) 22} \begin{array}{l} 2 \\ 22 \\ \hline \times \end{array}$$

$$\text{HCF} = 11$$

⑨ 2592, 1701

$$1701 \overline{) 2592} \begin{array}{l} 1 \\ 1701 \end{array}$$

$$\underline{\hspace{1cm}} \quad 891 \overline{) 1701} \begin{array}{l} 1 \\ 891 \end{array}$$

$$\underline{\hspace{1.5cm}} \quad 810 \overline{) 891} \begin{array}{l} 1 \\ 810 \end{array}$$

$$\underline{\hspace{2.5cm}} \quad 81 \overline{) 810} \begin{array}{l} 10 \\ 810 \\ \hline \times \end{array}$$

$$\therefore \text{HCF} = 81$$

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204, 85, 374

$$85 \overline{) 204} \begin{array}{l} 2 \\ 170 \end{array}$$

$$\underline{\hspace{1.5cm}} \quad 34 \overline{) 85} \begin{array}{l} 2 \\ 68 \end{array}$$

$$\underline{\hspace{2.5cm}} \quad 17 \overline{) 34} \begin{array}{l} 2 \\ 34 \\ \hline \times \end{array}$$

$$17 \overline{) 374} \begin{array}{l} 22 \\ 374 \\ \hline \times \end{array}$$

$$\therefore \text{HCF of } 204, 85, 374 = 17$$

(20) 72, 108, 144, 192

$$\begin{array}{r}
 72 \overline{) 108} (1 \\
 \underline{72} \\
 36 \overline{) 72} (2 \\
 \underline{72} \\
 \times
 \end{array}$$

$$\begin{array}{r}
 36 \overline{) 144} (4 \\
 \underline{144} \\
 \times
 \end{array}$$

$$\begin{array}{r}
 36 \overline{) 192} (5 \\
 \underline{180} \\
 12 \overline{) 36} (3 \\
 \underline{36} \\
 \times
 \end{array}$$

∴ HCF = 12

22

360, 405, 495

$$\begin{array}{r}
 360 \overline{) 405} (1 \\
 \underline{360} \\
 45 \overline{) 360} (8 \\
 \underline{360} \\
 \times
 \end{array}$$

$$\begin{array}{r}
 45 \overline{) 495} (11 \\
 \underline{495} \\
 \times
 \end{array}$$

∴ HCF = 45