



Exercise 1A

Questions 12:

$$(i) \quad \frac{69}{92} = \frac{3 \times 23}{2 \times 2 \times 23} = \frac{3}{4}$$

$$\begin{array}{r|l} 3 & 69 \\ \hline & 23 \end{array}$$

$$\begin{array}{r|l} 2 & 92 \\ \hline 2 & 46 \\ \hline & 23 \end{array}$$

$$(ii) \quad \frac{561}{748} = \frac{3 \times 11 \times 17}{2 \times 2 \times 11 \times 17} = \frac{3}{4}$$

$$\begin{array}{r|l} 3 & 561 \\ \hline 11 & 187 \\ \hline & 17 \end{array}$$

$$\begin{array}{r|l} 2 & 748 \\ \hline 2 & 374 \\ \hline 11 & 187 \\ \hline & 17 \end{array}$$

$$(iii) \quad \frac{1695}{1168} = \frac{3 \times 5 \times 73}{2 \times 2 \times 2 \times 2 \times 73} = \frac{15}{16}$$

$$\begin{array}{r|l} 3 & 1095 \\ \hline 5 & 365 \\ \hline & 73 \end{array}$$

$$\begin{array}{r|l} 2 & 1168 \\ \hline 2 & 584 \\ \hline 2 & 292 \\ \hline 2 & 146 \\ \hline & 73 \end{array}$$

Questions 13:

The prime factorization of 42, 49 and 63 are:

$$42 = 2 \times 3 \times 7, 49 = 7 \times 7, 63 = 3 \times 3 \times 7$$

Therefore, H.C.F. of 42, 49, 63 is 7

Hence, greatest possible length of each plank = 7 m

Questions 14:

$$7 \text{ m} = 700\text{cm}, 3\text{m } 85\text{cm} = 385 \text{ cm}$$

$$12 \text{ m } 95 \text{ cm} = 1295 \text{ cm}$$

Let us find the prime factorization of 700, 385 and 1295:

$$\begin{array}{r|l}
 2 & 700 \\
 \hline
 2 & 350 \\
 \hline
 5 & 175 \\
 \hline
 5 & 35 \\
 \hline
 & 7
 \end{array}$$

$$\begin{array}{r|l}
 5 & 385 \\
 \hline
 7 & 77 \\
 \hline
 & 11
 \end{array}$$

$$\begin{array}{r|l}
 5 & 1295 \\
 \hline
 7 & 259 \\
 \hline
 & 37
 \end{array}$$

Now, $700 = 2 \times 2 \times 5 \times 5 \times 7 = 2^2 \times 5^2 \times 7$

$$385 = 5 \times 7 \times 11$$

$$1295 = 5 \times 7 \times 37$$

$$\therefore \text{H.C.F.} = 5 \times 7 = 35\text{cm}$$

Greatest possible length = 35cm.

***** END *****