

$lcm(115,161,299)$ - less common multiple

It is easy to confirm that

$$115=5 \cdot 23$$

$$161=7 \cdot 23$$

$$299=13 \cdot 23$$

According to the theorem about factorization of natural value

$$\left. \begin{aligned} a &= p_1^{q_1} p_2^{q_2} \dots p_{r_1}^{q_{r_1}} \\ b &= p_1^{t_1} p_2^{t_2} \dots p_{r_2}^{t_{r_2}} \\ c &= p_1^{l_1} p_2^{l_2} \dots p_{r_3}^{l_{r_3}} \end{aligned} \right\} \Rightarrow lcm(a,b,c) = p_1^{\max\{q_1, t_1, l_1\}} p_2^{\max\{q_2, t_2, l_2\}} \dots - \text{the definition.}$$

As we can manually calculate

$$p_1 = 5, p_2 = 7, p_3 = 13, p_4 = 23. \max_{r, l, t} \{q_i, t_i, l_i\} = 1 \Rightarrow$$

Consequently, according to the definition

$$lcm(115,161,299) = 5 \cdot 7 \cdot 13 \cdot 23 = 10465$$