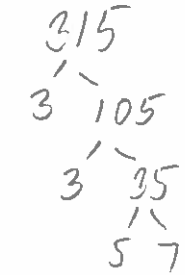


Finding LCM and GCF using prime factorization

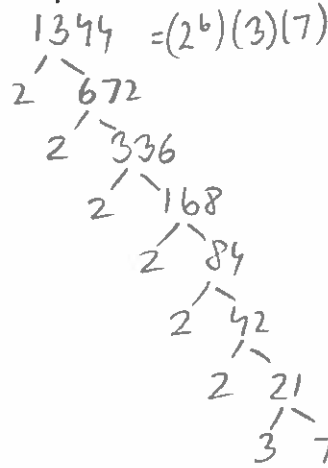
All work must be shown.

Please note that all final answers have to be written in the format: $\therefore \text{gcf}(\#, \#) = \#$ or $\therefore \text{lcm}(\#, \#) = \#$

1. Find the least common multiple of 315 and 1344.

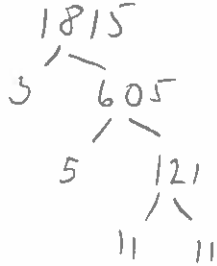
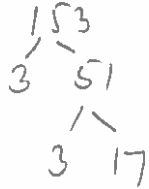


$$315 = (3^2)(5)(7)$$



$$\begin{aligned}
 \text{lcm}(315, 1344) &= (2^6)(3^2)(5)(7) \\
 \therefore \text{lcm}(315, 1344) &= \underline{\underline{20160}}
 \end{aligned}$$

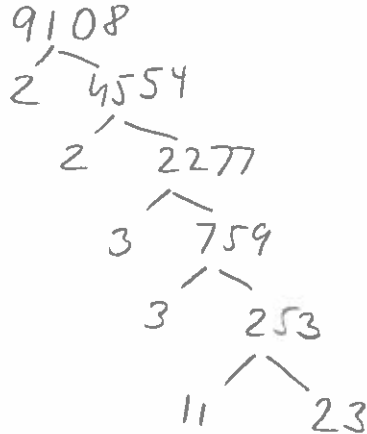
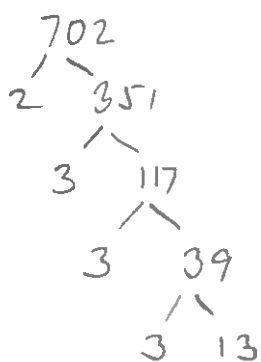
2. Find the greatest common factor of 153 and 1815.



$$\begin{aligned}
 153 &= (3)(3)(17) \\
 1815 &= (3)(5)(11)(11)
 \end{aligned}$$

$$\therefore \text{gcf}(153, 1815) = 3$$

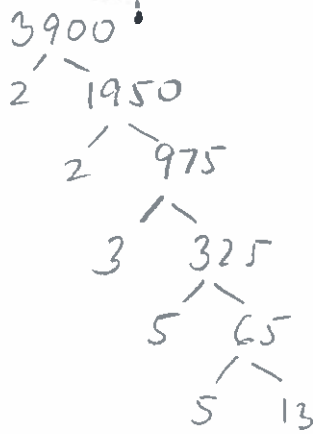
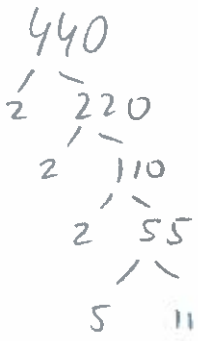
3. Find the greatest common factor of 702 and 9108.



$$\begin{aligned}
 \therefore \text{gcf}(702, 9108) &= (2)(3)(3) \\
 &= \underline{\underline{18}}
 \end{aligned}$$

$$\begin{aligned}
 702 &= (2)(3)(3)(3)(13) \\
 9108 &= (2)(2)(3)(3)(11)(23)
 \end{aligned}$$

4. Find the greatest common factor AND the least common multiple of 440 and 3900.



$$\begin{aligned}
 440 &= (2)(2)(2)(5)(11) \\
 3900 &= (2)(2)(3)(5)(5)(13)
 \end{aligned}$$

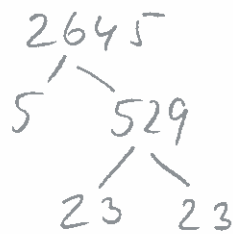
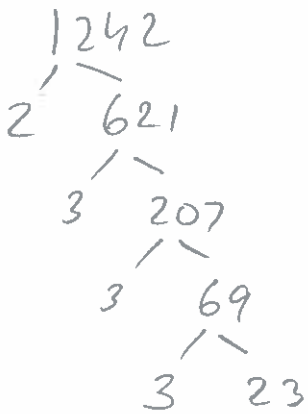
$$\begin{aligned}
 \therefore \text{gcf}(440, 3900) &= (2)(2)(5) \\
 &= \underline{\underline{20}}
 \end{aligned}$$

$$440 = (2^3)(5)(11)$$

$$3900 = (2^2)(3)(5^2)(13)$$

$$\begin{aligned}
 \text{lcm}(440, 3900) &= (2^3)(3)(5^2)(11)(13) \\
 &= \underline{\underline{85800}}
 \end{aligned}$$

5. Find the greatest common factor AND the least common multiple of 1242 and 2645.



$$\begin{aligned}
 1242 &= (2)(3^3)(23) \\
 2645 &= (5)(23)(23)
 \end{aligned}$$

$$\text{gcf}(1242, 2645) = \underline{\underline{23}}$$

$$\begin{aligned}
 \text{lcm}(1242, 2645) &= (2)(3^3)(5)(23^2) \\
 &= \underline{\underline{142830}}
 \end{aligned}$$