Maths Work Sheet

Q01 :} Find the smallest number which when divided by 30, 40 and 60 leaves the remainder 7 in each case.

Q02 :} The dimensions of a room are 6 m 75 cm, 4 m 50 cm and 2 m 25 cm. Find the length of the largest measuring rod which can measure the dimensions in exact number of times.

Q03 :} The HCF of 2 numbers is 75 and their LCM is 1500. If one of the numbers is 300, find the other.

Q04 :} Prove that $\sqrt{6}+\sqrt{5}$ is irrational.

Q05 :} Can 72 and 20 respectively be the LCM and HCF of two numbers. Write down the reason.

Q06 :} If *a* and *b* are two prime numbers, write their HCF and LCM.

Q07 :} If *p* and *q* are two coprime numbers, write their HCF and LCM.

Q08 :} Without actual division, state whether the decimal form of $\frac{539}{5^3 x 2^2 x 7^2}$ is terminating OR recurring.
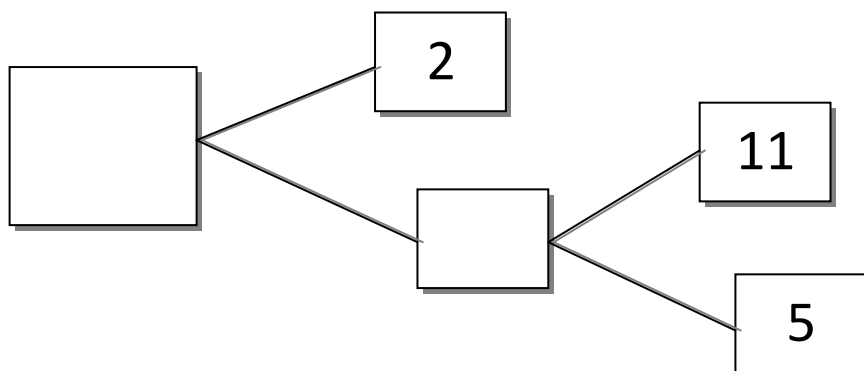
Q09 :} Find the HCF and LCM of 350 and 400 and verify that HCFxLCM=Product of the numbers.

Q10 :} Simplify: $\frac{2\sqrt{45}+3\sqrt{20}+10\sqrt{125}}{2\sqrt{5}}$

Q11 :} Write down 5 irrational numbers in radical form which are lying between 4 and 5.

Q12 :} Write down 2 rational numbers lying between $\sqrt{2}$ and $\sqrt{3}$.

Q13 :} Complete the missing entries in the following factor tree.

Q14 :} **Prove that $\sqrt{p} + \sqrt{q}$ is irrational if *p* and *q* are prime numbers.**

Q15 :} **Find the largest number which divides 245 and 1205 leaving the remainder 5 in each case.**

Q16 :} **Find the largest number which divides 303, 455 and 757 leaving the remainder 3, 5 and 7 respectively.**

Q17 :} **Prove that $\sqrt{5}$ is irrational.**

Q18 :} **Prove that $6 - 2\sqrt{5}$ is irrational.**

Q19 :} **Find the HCF and the LCM of the following by prime factorization.**

   a) **360 , 756**
   b) **$2x^4y^3z$, $32x^3y^4p^2$**

Q20 :} **Find the HCF by Euclid's Division Algorithm.**

   a) **256 , 352**
   b) **450 , 500 , 625**

Q21 :} **Explain why 7x11x13+13 is a composite number.**

Q22 :} **Show that any positive odd number is of the form $6q + 1$, $6q + 3$ or $6q + 5$, where *q* is an integer.**

Q23 :} **Show that the square of any positive integer is of the form $3m$ or $3m + 1$, where *m* is an integer.**

Q24 :} **Use Euclid's division lemma to show that the cube of any positive integer is of the form $9m$, $9m + 1$, $9m + 8$, where *m* is an integer.**

Q25 :} **There are 3 consecutive traffic lights which turn "green" after every 36, 42 and 72 seconds. They all were at "green" at 9:00 AM. At what time will they all turn "green" simultaneously?**

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