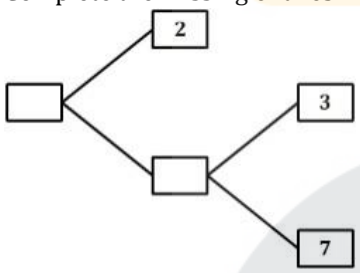
Previous Year Boards Questions

Chapter 1 – Real Numbers

1 or 2 Marks:

1. Write whether the rational number $\frac{51}{1500}$ will have a terminating decimal expansion or a non-terminating repeating decimal expansion.
2. Find the $[HCF \times LCM]$ for the numbers 100 and 190.
3. The decimal expansion of the rational number $\frac{43}{2^4.5^3}$, will terminate after how many placed of decimals?
4. Has the rational number $\frac{441}{2^2.5^7.7^2}$ a terminating or a non-terminating decimal representation?
5. Complete the missing entries in the following factor tree:



3 or 4 Marks:

1. Prove that $3 + \sqrt{2}$ is an irrational number.
2. Prove that $\sqrt{5}$ is an irrational number.
3. Use Euclid's Division Lemma to show that the square of any positive integer is either of the form $3m$ or $(3m + 1)$ for some integer m.
4. Show that the square of any positive odd integer is of the form $8m + 1$, for some integer m.
5. Prove that $7 + 3\sqrt{2}$ is not a rational number.
6. Prove that $2 - 3\sqrt{5}$ is an irrational number.