



Assignment questions based upon online class

# Maths home work (X)

1. Without actual division, state whether the following number will have a terminating decimal expansion or non-terminating repeating decimal expansion :

(i)  $\frac{23}{125}$

(ii)  $\frac{17}{32}$

(iii)  $\frac{123}{120}$

(iv)  $\frac{56}{840}$

(v)  $\frac{343}{980}$

(vi)  $\frac{132}{2^3 \times 5^2 \times 11}$

(vii)  $\frac{135}{2^5 \times 5^7 \times 7}$

(viii)  $\frac{158}{2^2 \times 5^3 \times 13}$

(ix)  $\frac{77}{5^4 \times 3^2 \times 7}$

(x)  $\frac{1331}{2^2 \times 11^2}$

2. Write down the decimal expansion of those rational numbers in question 1, which have terminating decimal expansion.  
3. Without actual division, Find after how many digits, decimal will terminate ?

(i)  $\frac{29}{8}$

(ii)  $\frac{11}{625}$

(iii)  $\frac{45}{64}$

(iv)  $\frac{123}{6250}$

(v)  $\frac{21}{140}$

(vi)  $\frac{147}{2^5 \times 5^2 \times 7^2}$

(vii)  $\frac{133}{2^3 \times 5^6 \times 19}$

(viii)  $\frac{2916}{2^4 \times 5^3 \times 3^4}$

(ix)  $\frac{15}{1000}$

(x)  $\frac{400}{2^7 \times 5^3}$

4. What can you say about the prime factorisation of the denominators of the following rationals :

(i)  $24.\overline{5678}$

(ii)  $3.\overline{1425}$

(iii)  $12.\overline{5678}$

(iv)  $23.\overline{8689}$

(v)  $2.\overline{121221222}$  .....

5. The decimal expansion of rational number  $\frac{43}{2^4 \cdot 5^3}$  will terminate after how many places of decimal ?