Exercise 1B

Questions 1:

(i)　　$\dfrac{11}{2^3 \times 3}$

Its denominator, $\left(2^3 \times 3\right) \neq \left(2^m \times 5^n\right)$

∴ it is a non – terminating repeating decimal

(ii)　　$\dfrac{73}{2^2 \times 3^3 \times 5}$

Its denominator, $\left(2^2 \times 3^3 \times 5\right) \neq \left(2^m \times 5^n\right)$

∴ it is a non – terminating repeating decimal

(iii)　　$\dfrac{9}{35} = \dfrac{9}{5 \times 7}$

Its denominator, $\left(5 \times 7\right) \neq \left(2^m \times 5^n\right)$

∴ it is a non terminating repeating decimal

(iv)　　$\dfrac{32}{147} = \dfrac{32}{7 \times 3 \times 7} = \dfrac{32}{3 \times 7^2}$

Its denominator, $\left(3 \times 7^2\right) \neq \left(2^m \times 5^n\right)$

∴ it is a non- terminating repeating decimal

(v)　　$\dfrac{64}{455} = \dfrac{64}{5 \times 7 \times 13}$

Its denominator, $\left(5 \times 7 \times 11\right) \neq \left(2^m \times 5^n\right)$

∴ it is a non – terminating repeating decimal

(vi)　　$\dfrac{77}{210} = \dfrac{77}{3 \times 2 \times 5 \times 7}$

Its denominator, $\left(2 \times 3 \times 5 \times 7\right) \neq \left(2^m \times 5^n\right)$

∴ it is a non – terminating repeating decimal

(vii)　　$\dfrac{29}{343} = \dfrac{29}{7 \times 7 \times 7} = \dfrac{29}{7^3}$

Its denominator, $\left(7^3\right) \neq \left(2^m \times 5^n\right)$

∴ it is a non – terminating repeating decimal

(viii)　　$\dfrac{129}{2^2 \times 5^7 \times 7^5}$

Its denominator, $\left(2^2 \times 5^7 \times 7^5\right) \neq \left(2^m \times 5^n\right)$

∴ it is a non – terminating repeating decimal

Questions 2:

(i) $\dfrac{23}{2^3 \times 5^2}$ has 2 and 5 as factors in denominator

$$\dfrac{23}{2^3 \times 5^2} = \dfrac{23}{2 \times 100} = \dfrac{11.5}{100} = 0.115$$

(ii) $\dfrac{24}{125} = \dfrac{24}{5^3}$ has 5 as its factor in denominator

$$\dfrac{24 \times 8}{125 \times 8} = \dfrac{192}{1000} = 0.192$$

(iii) $\dfrac{170}{320} = \dfrac{17}{2^6 \times 5}$ has 2 and 5 as factors in the denominator.

$$\dfrac{17}{32 \times 10} = \dfrac{17 \times 5^5}{2^5 \times 5^5 \times 10} = \dfrac{53125}{10^5 \times 10} = 0.053125$$

(iv) $\dfrac{171}{800} = \dfrac{171}{2^5 \times 5^2}$ has 2 and 5 as its factors in the denominator

$$\dfrac{171}{2^5 \times 5^2} = \dfrac{171 \times 5^3}{2^5 \times 5^2 \times 5^3} = \dfrac{21375}{10^5} = 0.21375$$

(v) $\dfrac{15}{1600} = \dfrac{15}{2^6 \times 5^2}$ has 2 and 5 as its factors in the denominator

$$\dfrac{15}{2^6 \times 5^2} = \dfrac{15 \times 5^4}{2^6 \times 5^2 \times 5^4} = \dfrac{9375}{10^6} = 0.0099375$$

(vi) $\dfrac{19}{3125} = \dfrac{19}{5^5}$ has 5 as its factors denominator

$$\dfrac{19}{5^5} = \dfrac{19 \times 2^5}{5^5 \times 2^5} = 0.00608$$

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