Number System Ex 1.3 Q3

(v) Let $x = 125.\overline{3}$

$\Rightarrow x = 125 + 0.\overline{3}$

$\Rightarrow x = 125 + \frac{1}{3} \quad \left(\because 0.\overline{3} = \frac{1}{3}\right)$

$\Rightarrow x = \frac{375 + 1}{3}$

$\Rightarrow x = \frac{376}{3}$

Hence, $\boxed{125.\overline{3} = \frac{376}{3}}$

Number System Ex 1.3 Q4

(vi) Let $x = 4.\overline{7}$

$x = 4 + 0.\overline{7}$

Let $y = 0.\overline{7} = 0.777...$

$\Rightarrow 10y = 7 + 0.777...$

$\Rightarrow 10y = 7 + y$

$\Rightarrow y = \frac{7}{9}$

Therefore,

$x = 4 + \frac{7}{9} = \frac{43}{9}$

Hence, $\boxed{4.\overline{7} = \frac{43}{9}}$

(vii) Let $x = 0.4\overline{7}$

$\Rightarrow 10x = 4 + 0.\overline{7}$

Since, $0.\overline{7} = \frac{7}{9}$

Therefore,

$\Rightarrow 10x = 4 + \frac{7}{9} = \frac{43}{9}$

$\Rightarrow x = \frac{43}{90}$

Hence, $\boxed{0.4\overline{7} = \frac{43}{90}}$

********** END **********