## Exercise 2.3

Q.1 Express the following numbers in Standard form

(i) 602000000000000000 (ii) 0.000000000000942

(iii) 0.0000000000085 (iv) $846 \times 10^{7}$

(v) $3759 \times 10^{-4}$ (vi) 0.00072984

(vii) $0.000437 \times 10^{4}$ (viii) $4 \div 100000$

Solution (i) $6.02 \times 10^{15}$ { decimal shifted 15 places to left }

(ii) $9.42 \times 10^{-12}$ { decimal shifted 12 places to right }

(iii) $8.5 \times 10^{-10}$ { decimal shifted 10 places to left }

(iv) $846 \times 10^{7} = 8.46 \times 10^{2} \times 10^{7}$

$= 8.46 \times 10^{9}$

(v) $3759 \times 10^{-4} = 3.759 \times 10^{3} \times 10^{-4}$

$= 3.759 \times 10^{3-4} = 3.759 \times 10^{-1}$

(vi) $0.00072984 = 7.2984 \times 10^{-4}$

(vii) $0.000437 \times 10^{4} = 4.37 \times 10^{-4} \times 10^{4}$

$= 4.37 \times 10^{-4+4} = 4.37 \times 10^{0} = 4.37$

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(viii) $4 \div 100000 = \frac{4}{10^5} = 4 \times 10^{-5}$

Q.2 Write the following numbers in usual form:

(i) $4.83 \times 10^{7} = 48300000$

(ii) $3.02 \times 10^{-6} = 0.00000302$

(iii) $4.5 \times 10^{4} = 45000$

(iv) $3 \times 10^{-8} = 0.00000003$

(v) $1.001 \times 10^{9} = 1001000000$

(vi) $5.8 \times 10^{2} = 580$

(vii) $3.61492 \times 10^{6} = 3614920$

(viii) $3.25 \times 10^{-7} = 0.000000325$

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