Chapter # 2

LOGARITHMS

Exercise # 2.1

Question # 1: Express the following numbers in scientific notation.

(i) $\mathbf{2000000}$
$= 2 \times 10^6$ (Answer)

(ii) $\mathbf{48900}$
$= 4.89 \times 10^4$ (Answer)

(iii) $\mathbf{0.0042}$
$= 4.2 \times 10^{-3}$ (Answer)

(iv) $\mathbf{0.0000009}$
$= 9 \times 10^{-7}$ (Answer)

(v) $\mathbf{73 \times 10^3}$
$= 7.3 \times 10^1 \times 10^3$
$= 7.3 \times 10^{1+3}$
$= 7.3 \times 10^4$ (Answer)

(vi) $\mathbf{0.65 \times 10^2}$
$= 6.5 \times 10^{-1} \times 10^2$
$= 6.5 \times 10^{-1+2}$
$= 6.5 \times 10^1$ (Answer)

Question # 2: Express the following numbers in ordinary notation.

(i) $\mathbf{8.04 \times 10^2}$
$= 804$ (Answer)

(ii) $\mathbf{3 \times 10^5}$
$= 300000$ (Answer)

(iii) $\mathbf{1.5 \times 10^{-2}}$
$= 0.015$ (Answer)

(iv) $\mathbf{1.77 \times 10^7}$
$= 17700000$ (Answer)

(v) $\mathbf{5.5 \times 10^{-6}}$
$= 0.0000055$ (Answer)

(vi) $\mathbf{4 \times 10^{-5}}$
$= 0.00004$ (Answer)

Question # 3: The speed of light is approximately 3×10^8 meters per second. Express it in standard form.

Speed of light $= 3 \times 10^8\ ms^{-1}$
In standard form: $300000000\ ms^{-1}$ (Answer)

Question # 4: The circumference of the Earth at the equator is about 4007500 meters. Express this number in scientific notation.

Circumference of Earth $= 40075000\ m$
In scientific notation: $4.0075 \times 10^7\ m$ (Answer)

Question # 5: The diameter of Mars is 6.779×10^3 km. Express this number in standard form.

Diameter of Mars $= 6.779 \times 10^3\ km$
In standard form: $6779\ km$ (Answer)

Question # 6: The diameter of Earth is about 1.2756×10^4 km. Express this number in standard form.

Diameter of Earth $= 1.2756 \times 10^4\ km$
In standard form: $12756\ km$ (Answer)