

SET 1: Basic Mathematics

Tutorial 2

1. Evaluate:

(a) $4^3 \times 4$ [Ans. 256]

(b) $\left(\frac{2}{3}\right)^4$ [Ans. $\frac{16}{81}$]

(c) $(-5)^3$ [Ans. -125]

(d) $\frac{11^5}{11^4}$ [Ans. 11]

(e) $\frac{10^8}{10^5}$ [Ans. 1000]

(f) $\frac{10^5}{10^8}$ [Ans. $\frac{1}{1000}$]

(g) $(3^2)^3$ [Ans. 729]

(h) $(3 \times 4)^2$ [Ans. 144]

(i) $7 \times (7^3)^4 \div 7^{14}$ [Ans. $\frac{1}{7}$]

(j) $12^7 \div 12^6 \times 12^{-3}$ [Ans. $\frac{1}{144}$]

(k) $\frac{(14^3)^2 \times 14^{-5}}{14^3}$ [Ans. $\frac{1}{196}$]

(l) $\frac{9^4}{3^4 \times 27 \times 9^{-2}}$ [Ans. 243]

2. Find the value of:

(a) $121^{1/2}$ [Ans. ± 11]

(b) $64^{1/3}$ [Ans. 4]

(c) $27^{4/3}$ [Ans. 81]

(d) $9^{2.5}$ [Ans. ± 243]

(e) $81^{1/4}$ [Ans. ± 3]

(f) $-64^{1/3}$ [Ans. -4]

3. Evaluate $\frac{-125^{1/3}}{-25 \times 5^{-3}}$ [Ans. 25]

4. Determine the value of:

(a) $\sqrt[3]{8(-64)}$ [Ans. -8]

(b) $\sqrt[3]{\frac{64}{-125}}$ [Ans. $-\frac{4}{5}$]

(c) $\sqrt[3]{\sqrt[5]{256}}$ [Ans. $\sqrt[15]{256}$]

(d) $\sqrt[8]{15^8}$ [Ans. 15]

(e) $\sqrt[5]{-243^5}$ [Ans. -243]