Quiz-1

1. $(x^7 * y^{-2})^3 / (x^9 * y^2 * z^3)^2$

$$= \frac{(x^7 y^{-2})^3}{(x^9 y^2 z^3)^2}$$

$\Rightarrow (a^m)^n = a^{m*n}$

$$= \frac{x^{7*3}\ y^{-2*3}}{x^{9*2}\ y^{2*2}\ z^{3*2}}$$

$$= \frac{x^{21}\ y^{-6}}{x^{18}\ y^4 z^6}$$

$\Rightarrow \frac{x^m}{x^n} = x^{m-n}$

$$= x^{21-18}\ y^{-6-4}\ z^{-6}$$

Ans = $x^3\ y^{-10}\ z^{-6}$

Code Notation

x^3 * y^-10 * z^-6

2. $8 / 2(2+2)$

According to Maths Rule (BODMAS) Parentheses solved first

$$= \frac{8}{2(4)}$$

$$= \frac{8}{8}$$

Ans = 1

3. $\sqrt[3]{27x^3}^4$

$(27x^3)^{4/3}$

as $3^3 = 27$

$((3x)^3)^{4/3}$

$(a^m)^n = a^{m*n}$

$(3x)^{3*4/3}$

$(3x)^4$

Ans $81x^4$

Code Notation :- $81 * x \wedge 4$

4. The number $\sqrt{3}$ belongs to set of Real numbers, denoted by R

5. $v = (4 * p * r \wedge 3)/3$

$v = \frac{4pr^3}{3}$

$3v = 4pr^3$

$\frac{3v}{4p} = r^3 \Rightarrow \sqrt[3]{\frac{3v}{4p}} = r$

Ans $r = \sqrt[3]{\frac{3v}{4p}}$