BCM SCHOOL ,BASANT AVENUE,DUGRI ROAD,LUDHIANA

CLASS IX

SUBJECT: MATHEMATICS

ANSWER KEY OF ASSIGNMENT -1 (APRIL 2023-24)

CH:1 (NUMBER SYSTEM) AND CH:2 (POLYNOMIALS)

Q1 c) $\frac{1024}{99}$

Q2 a) $\sqrt{25} - 5$

Q3 c) -4

Q4 (c) Assertion (A) is true but reason (R) is false.

Q5 Rationalize the denominator

$$\frac{5+2\sqrt{3}}{7+4\sqrt{3}} = \frac{5+2\sqrt{3}}{7+4\sqrt{3}} \times \frac{7-4\sqrt{3}}{7-4\sqrt{3}} = 11-6\sqrt{3}$$

$$11-6\sqrt{3} = a-b\sqrt{3}$$

$$a=11 \quad , \quad b=6$$

Q6 $(a+b)^2 = a^2 + b^2 + 2ab$

$10^2 = 58 + 2a$

$100 = 58 + 2ab$

$2ab = 42$

$ab = 21$

$(a+b)^3 = a^3 + b^3 + 3ab(a+b)$

$10^3 = a^3 + b^3 + 3 \times 21(10)$

$10^3 = a^3 + b^3 + 630$

$1000 - 630 = a^3 + b^3$

$a^3 + b^3 = 370$

Q7 $x=2+\sqrt{3}$

$x^2=(2+\sqrt{3})^2 = 7+4\sqrt{3}$

$$\frac{1}{x} = \frac{1}{2+\sqrt{3}}$$

$$\frac{1}{x} = \frac{1}{2+\sqrt{3}} \times \frac{2-\sqrt{3}}{2-\sqrt{3}}$$

$$= \frac{2-\sqrt{3}}{4-3} = \frac{2-\sqrt{3}}{1}$$

$$\left(\frac{1}{X}\right)^2 = (2-\sqrt{3})^2$$

$$\frac{1}{X^2} = 4 + 3 - 4\sqrt{3} = 7 - 4\sqrt{3}$$

$$x^2 + \frac{1}{X^2} = 7 + 4\sqrt{3} + 7 - 4\sqrt{3} = 14$$

$$x^2 + \frac{1}{X^2} = 14$$

Q8 (i) 675

(ii) 2x+7 , 3x-5

(iii) x = 12