BCM SCHOOL, BASANT AVENUE, DUGRI ROAD, LUDHIANA CLASS -X (MATHEMATICS) Assignment 1(Real Numbers & Polynomials) ANSWER KEY	
1.	**(a)13**
2.	**(d) a – 0, b = -6**
3.	**(d) -10**
4.	**(b)Both assertion and reason are true and reason is not the correct explanation of assertion.**
5.	Let us assume that $5 + 3\sqrt{2}$ is a rational number with p and q as co-prime integers and $q \neq 0$ $\Rightarrow 5 + 3\sqrt{2} = p / q$ $\Rightarrow 3\sqrt{2} = (p / q) - 5$ $\Rightarrow \sqrt{2} = (p - 5q) / 3q$ $\Rightarrow$ (p - 5q) / 3q is a rational number However, we know that $\sqrt{2}$ is an irrational number This leads to the contradiction that $5 + 3\sqrt{2}$ is an irrational number
6.	$(-a)^2 + p\cdot(-a) + q = 0$ --> $a^2 - ap + q = 0$ $(-a)^2 + m\cdot(-a) + n = 0$ --> $a^2 - am + n = 0$ Since they both equal 0, you can set them equal to each other: $a^2 - ap + q = a^2 - am + n$ $-ap + q + -am + n$ $am - ap = n-q$ $a(m-p) = n-q$ $a=n-q/m-p$

7.	α and β are the zeroes of the polynomial $2x^2 - 3x + 1$ $\Rightarrow \quad \alpha + \beta = \frac{-b}{a} = \frac{-(-3)}{2} = \frac{3}{2}$ $\alpha\beta = \frac{c}{a} = \frac{1}{2}$ Now, zeroes of the required polynomial are 3α and 3β $\Rightarrow \quad S = 3\alpha + 3\beta = 3(\alpha + \beta) = 3\left(\frac{3}{2}\right) = \frac{9}{2}$ $\Rightarrow \quad P = (3\alpha)(3\beta) = 9(\alpha\beta) = 9 \times \frac{1}{2} = \frac{9}{2}$ Now, required polynomial is $x^2 - Sx + p$ $= x^2 - \frac{9}{2}x + \frac{9}{2} = \frac{k}{2}(2x^2 - 9x + 9)$, where k be any constant.
8.	(a)LCM (b) 180 (c) 2 (d) 4 & 60