

## X Holiday Home Work

1. Find a quadratic polynomial  $P(y)$  whose sum and product of zeroes are 2 and  $-\frac{3}{5}$  respectively.
2.  $\alpha$  and  $\beta$  are the roots of the quadratic polynomial  $P(x) = x^2 - (k-6)x + (2k+1)$ . Find the value of  $k$ , if  $\alpha + \beta = \alpha\beta$ .
3. Find a quadratic polynomial whose one of the zeroes is  $-15$  and sum of the zeroes is  $42$ .
4. Find the zeroes of the quadratic polynomial  $4x^2 - 7$ .
5. Find the zeroes of the quadratic polynomial  $\sqrt{3}x^2 - 8x + 4\sqrt{3}$ .
6. If  $\alpha, \beta$  are the zeroes of the polynomial  $6y^2 - 7y + 2$ , find a quadratic polynomial whose zeroes are  $\frac{1}{\alpha}$  and  $\frac{1}{\beta}$ .
7. Find the zeroes of the quadratic polynomial  $6x^2 - 3 - 7x$  and verify the relationship between the zeroes and the coefficients.
8. Find the zeroes of  $4\sqrt{5}x^2 - 17x - 3\sqrt{5}$  and verify the relation between the zeroes and coefficients of the polynomial.
9. Find the zeroes of the quadratic polynomial  $x^2 + 5x + 6$  and verify the relationship between the zeroes and the coefficients.
10. If  $\alpha, \beta$  are zeroes of the polynomial  $x^2 - 2x - 8$ , then form a quadratic polynomial whose zeroes are  $2\alpha$  and  $2\beta$ .