# DELHI PUBLIC SCHOOL FIROZABAD

**(UNDER THE AEGIS OF DELHI PUBLIC SCHOOL SOCIETY EAST OF KAILASH NEWDELHI)**

**(A SENIOR SECONDARY SCHOOL)**

**AFFILIATED TO CBSE, AFFILIATION NO. 2133064 SCHOOL NO: 61225**

**MATHEMATICS (**Worksheet**)**

Name: _____ Class: IX

Roll No.: _____

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## I. Answer the following questions:

1. Find the remainder when the polynomial $p(x) = x^4 + 2x^3 – 3x^2 + x + 1$ is divided by $g(x) = x – 2$.

2. If the polynomials $(2x^3 + ax^2 + 3x - 5)$ and $(x^3 + x^2 – 2x + a)$ leave the same remainder when divided by $(x - 2)$, find the value of a. Also, find the remainder in each case.

3. Factorise
   (i) $ab + bc + ax + cx$
   (ii) $6ab – b^2 + 12ac – 2bc$

4. Factorise $1 + x + y – z + xy – yz – zx - xyz$

5. Factorise
(i) $(x^3 - x)$
(ii) $(18a^2x^2 - 32)$
(iii) $(2a^5 – 32a)$

6. Factorise
   (i) $x^2 – 1 – 2a – a^2$
   (ii) $1 + 2ab – (a^2 + b^2)$
   (iii) $(x^4 + 4)$
   (iv) $(x^2 + 4/x^2)$
   (v) $(x^4 + x^2y^2 + y^4)$.