The City School

**North Nazimabad Boys Campus**

**Date**: 24-09-2015

**Subject**: Maths

**Class**: 9th

**Teacher:** Ms.Sheema

**Topic: Direct And Inverse Proportion**

**Paper- I**

**Q1: If the volume ‘V’ is inversely proportional to the pressure ‘P’ . Given that V= 200 and**

**P = 50. Find the volume When P = 200.**

**Q2: If ‘z’ is inversely proportional to** √ **and if Z=6 and x = 9.**

**a) Express ‘z’ in terms of** √

**b) Find the value of ‘z’ when x = 25.**

**Q3: If ‘x’ is directly proportional to** √ **and x = 4 when v = 64, find the value of x when v =**

**125 and the value of v when x = 2.**

**Q4: If y is directly proportional to x2 and y = 12 when x = 2, find y when x=5.**

**Q5: It is given that m =**

√ **:**

**a) Describe the relationship between m and n in words by completing the sentence in**

**the answer space.**

**m is ……………………proportional to the square root of n.**

**b) Calculate n when m = 3.**

**Paper – II**

**Q6: The surface area ‘A’ of a sphere is directly proportional to the square of its diameter**

**‘*d*’, i.e A= k*d2***

**a) Can you suggest the value of k?**

**b) Given that A=38 when *d* = 3 , find the value of k .**

***c)* State the relation between A and *d* in another way.**

**Q7: When a space satellite orbits the earth , the force F attracting it towards the earth is**

**inversely proportional to the square of the distance R the center of the earth. Express**

**F in terms of R and the constant of the variation k. Hence calculate**

**a) The value of k if F= 50 and when R = 32.**

**b) The value of R if F = 512.**

**Q8: The pressure P of an enclosed gas, held at a constant temperature is inversely**

**proportional to the volume V of the gas . The pressure of certain mass of the gas is**

**500 N/m2when the volume at a fixed temperature is 2 m2. Find the pressure when the**

**volume is 5 m2.**

**Q9: The frequency of the radio waves is inversely proportional to their wave length. Given**

**that the wavelength is 1.5× 103 meters when the frequency is 2.0× 102 kc/s. Find**

**a) The frequency of the radio waves with a wave length of 480 meters.**

**b) The wave length of radio waves which have a frequency of 960 kc/s.**