

30.

On her birthday, Prema decides to donate some money to children of an orphanage home.



If there are 8 children less, everyone gets ₹ 10 more. However, if there are 16 children more, everyone gets ₹ 10 less.

Let the number of children in the orphanage home be x and the amount to be donated to each child be ₹ y .

Based on the above information, answer the following questions :

- (i) Write the system of linear equations in x and y formed of the given situation.
- (ii) Write the system of linear equations, obtained in (i) above, in matrix form $AX = B$.
- (iii) (a) Find the inverse of matrix A .

OR

- (b) Determine the values of x and y .

Note: Practice relevant questions of Chapter 3 and 4 from NCERT Core Math book including examples.

S.D. Public School, Pitampura

Class XII

2026-27

Applied Mathematics

Holiday's Homework Project

Prepare a project on any one of the suggested projects:

List of Suggested projects:

1. Prepare a questionnaire to collect information about money spent by your friends in a month on activities like travelling, movies, recharging of the mobiles, etc. and draw interesting conclusions
2. Check out the local newspaper and cut out examples of information depicted by graphs. Draw your own conclusions from the graph and compare it with the analysis given in the report
3. Analysis of population migration data – positive and negative influence on urbanization
4. Each day newspaper tells us about the maximum temperature, minimum temperature, and humidity. Collect the data for a period of 30 days and represent it graphically. Compare it with the data available for the same time period for the previous year
5. Analysis of career graph of a cricketer (batting average for a batsman and bowling average for a bowler). Conclude the best year of his career. It may be extended for other players also – tennis, badminton, athlete
6. Vehicle registration data – correlating with pollution and the number of accidents
7. Visit a village near Delhi and collect data of various crops over the past few years from the farmers. Also, collect data about temperature variation and rain over the period for a particular crop. Try to find the effect of temperature and rain variations on various crops
8. Choose any week of your ongoing semester. Collect data for the past 10 – 15 years for the amount of rainfall received in Delhi during that week. Predict the amount of rainfall for the current year
9. Weather prediction (prediction of monsoon from past data)
10. Visit Kirana shops near your home and collect the data regarding the sales of certain commodities over a month. Try to figure out the stock of a particular commodity which should be in the store in order to maximize the profit
11. Predicting the outcome of an election – exit polls.
12. Predicting mortality of infants.