

**Chapter
8****Equations and Inequalities**

Dear Family,

Have you ever had to plan a large party—perhaps a family reunion, a wedding, or a community fundraiser? Planning for a large event can be quite a challenge. Recruiting your student to help with the planning provides a great opportunity for your student to use math skills.

For example, you could ask your student to figure out the following.

- How much food is needed? Should you plan on just one portion per person, or multiple portions? Have your student write a rule (or equation) to determine the number of portions of food you need. Your student can write a rule even if you don't know how many people will be attending when you first start planning.
- Is the number of invitations needed equal to the number of people being invited? Have your student write a rule for the number of invitations you need and another rule for the cost of the postage.
- Each table can probably seat 8 or 10 people. You'll want to figure out how many tables you will need. Have your student write a math rule to determine this amount.
- How many tablecloths and table decorations will you need? If there will be serving tables, don't forget about decorating those as well.

Event planners often say that about two-thirds to three-quarters of invitees can be counted on to attend. Work with your student on a strategy to guess how many people you think will actually attend. Then have your student use the rules he or she wrote to estimate the number of portions, invitations, tables, and decorations that will be needed for the event.

Is your event a fundraiser? If so, figure out how much you will charge per person. Figure out how much you will spend on the whole event. Have your student write a rule to determine if you will make money for your cause.

You and your student can take satisfaction from your good planning—enjoy the event!

Lesson	Learning Target	Success Criteria
8.1 Writing Equations in One Variable	Write equations in one variable and write equations that represent real-life problems.	<ul style="list-style-type: none"> I can identify key words and phrases that indicate equality. I can write word sentences as equations. I can create equations to represent real-life problems.
8.2 Solving Equations Using Addition or Subtraction	Write and solve equations using addition or subtraction.	<ul style="list-style-type: none"> I can determine whether a value is a solution of an equation. I can apply the Addition and Subtraction Properties of Equality to generate equivalent equations. I can solve equations using addition or subtraction. I can create equations involving addition or subtraction to solve real-life problems.
8.3 Solving Equations Using Multiplication or Division	Write and solve equations using multiplication or division.	<ul style="list-style-type: none"> I can apply the Multiplication and Division Properties of Equality to generate equivalent equations. I can solve equations using multiplication or division. I can create equations involving multiplication or division to solve real-life problems.
8.4 Writing Equations in Two Variables	Write equations in two variables and analyze the relationship between the two quantities.	<ul style="list-style-type: none"> I can determine whether an ordered pair is a solution of an equation in two variables. I can distinguish between independent and dependent variables. I can write and graph an equation in two variables. I can create equations in two variables to solve real-life problems.
8.5 Writing and Graphing Inequalities	Write inequalities and represent solutions of inequalities on number lines.	<ul style="list-style-type: none"> I can write word sentences as inequalities. I can determine whether a value is a solution of an inequality. I can graph the solutions of inequalities.
8.6 Solving Inequalities	Write and solve inequalities.	<ul style="list-style-type: none"> I can apply the properties of inequality to generate equivalent inequalities. I can solve inequalities using addition or subtraction. I can solve inequalities using multiplication or division. I can write and solve inequalities that represent real-life problems.