# Table of Contents

**Introduction** ................................................................................................. iii–xi  
What is *Closing the Distance: A Flexible Tutorial*? ........................................ iii  
What is in a lesson found in *Closing the Distance: A Flexible Tutorial*? ........ iv  
References and Bibliography ........................................................................ xi  

**Foundations of Functions** .......................................................................... 2–13  
Lesson Notes ................................................................................................. 2  
Answer Keys ................................................................................................. 8  
Activity Masters and Student Pages ........................................................... on CD  

**Multiple Representations** ........................................................................... 14–29  
Lesson Notes ................................................................................................. 14  
Answer Keys ................................................................................................. 20  
Activity Masters and Student Pages ........................................................... on CD  

**Interpreting Situations** ............................................................................... 30–43  
Lesson Notes ................................................................................................. 30  
Answer Keys ................................................................................................. 36  
Activity Masters and Student Pages ........................................................... on CD  

**Changes in Slope and *y*-Intercept** ............................................................ 44–58  
Lesson Notes ................................................................................................. 44  
Answer Keys ................................................................................................. 50  
Activity Masters and Student Pages ........................................................... on CD  

**Changing Slope and *y*-Intercept in Applied Situations** ............................ 60–75  
Lesson Notes ................................................................................................. 60  
Answer Keys ................................................................................................. 66  
Activity Masters and Student Pages ........................................................... on CD  

**Writing Linear Equations** .......................................................................... 76–94  
Lesson Notes ................................................................................................. 76  
Answer Keys ................................................................................................. 83  
Activity Masters and Student Pages ........................................................... on CD  

**Equations and Inequalities** ........................................................................ 96–108  
Lesson Notes ................................................................................................. 96  
Answer Keys ................................................................................................. 102  
Activity Masters and Student Pages ........................................................... on CD  

**Systems of Equations** .............................................................................. 110–123  
Lesson Notes ............................................................................................... 110  
Answer Keys ............................................................................................... 116  
Activity Masters and Student Pages ............................................................ on CD
Solve and Graph Quadratic Functions .................................................. 124–138
  Lesson Notes .................................................................................. 124
  Answer Keys ................................................................................... 131
  Activity Masters and Student Pages ............................................... on CD

Quadratic Functions in Context ......................................................... 140–154
  Lesson Notes .................................................................................. 140
  Answer Keys ................................................................................... 146
  Activity Masters and Student Pages ............................................... on CD
What is *Closing the Distance: A Flexible Tutorial*?

1. A resource that serves as an intervention for students who are close to success on the State of Texas Assessments of Academic Readiness (STAAR™)

2. A resource that provides opportunities for rigorous mathematical conversations while providing a review of mathematics concepts and skills by integrating related TEKS

3. A resource that keeps students engaged without feeling the pressure of a high-stakes assessment through strategies including modeling, card sorts, paper folding, matching, chart paper recording, cooperative learning, and analysis of student work

4. A resource that provides an opportunity for students to track their progress with analysis of strengths and areas to improve within each lesson and an opportunity for follow-up with parents through an activity for each lesson that is accessible through a QR code

5. A resource of classroom-ready 5E lessons. The Engage phase of each lesson consists of a student-centered activity that either bridges from students’ prior knowledge or encourages interest in deeper exploration of the concepts in the lesson. The Explore phase of each lesson provides students with an opportunity to “do mathematics” and begin to formulate ideas and conjectures. In the Explain phase of each lesson, students formalize the mathematical ideas from the Explore phase with a focus on academic vocabulary as well as procedures related to the concepts. The Elaborate phase of each lesson allows students to apply or extend their understanding of the concepts in the lesson. The Evaluate phase consists of four selected-response or griddable items that can be used to assess student understanding.
What is in a lesson found in *Closing the Distance: A Flexible Tutorial*?

Each lesson supports multiple student expectations. These are listed at the beginning of each lesson and are labeled as readiness or supporting.

**Multiple Representations**

TEKS
A.1 The student understands that a function represents a dependence of one quantity on another and can be described in a variety of ways.

(C) The student is expected to describe functional relationships for given problem situations and write equations or inequalities to answer questions arising from the situations. **Supporting Standard**

(D) The student is expected to represent relationships among quantities using (concrete) models, tables, graphs, diagrams, verbal descriptions, equations, and inequalities. **Readiness Standard**

(E) The student is expected to interpret and make decisions, predictions, and critical judgments from functional relationships. **Readiness Standard**

A.4 The student understands the importance of the skills required to manipulate symbols to solve problems and uses the necessary algebraic skills required to manipulate symbolic expressions and solve equations and inequalities in problem situations. **Supporting Standard**

The student is expected to connect equation notation with function notation, as $y = x - 1$ and $f(x) = x - 1$. **Supporting Standard**

The student understands that linear functions can be represented in different ways (algebraic, graphic, numeric, tabular) and makes connections among those representations. **Readiness Standard**

Each lesson identifies the reporting categories addressed within the lesson.

A QR code may be used to see the Assessed Curriculum as listed on the Texas Education Agency website.
What is in a lesson found in *Closing the Distance: A Flexible Tutorial*?

### Multiple Representations

**Core Questions**

By the end of this lesson, students should be able to answer these core questions:

- What information about a function is communicated with a table or mapping diagram?
- What information about a function is communicated with an algebraic representation?
- What information about a function is communicated with a graph?
- How can the information communicated by a representation help generate representations?

**Vocabulary Focus**

- algebraic representation
- mapping
- set of points
- verbal description

**Lesson Preparation**

Students may use a graphing calculator and the STAAR® Algebra I Reference Materials as needed throughout the lesson. Reference materials can be found at [http://www.tea.state.tx.us/student.assessment/staar/math/](http://www.tea.state.tx.us/student.assessment/staar/math/).

<table>
<thead>
<tr>
<th>Phase</th>
<th>Materials one per student unless otherwise noted</th>
<th>Instructional Grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engage</td>
<td>• What Is My Equation?</td>
<td>Individual</td>
</tr>
<tr>
<td></td>
<td>• Multiple Representations Spinner (one per pair of students)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Creating Other Representations</td>
<td>Pairs of students</td>
</tr>
<tr>
<td></td>
<td>• Graphs (one per pair of students)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Paper clip (one per pair of students)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Multiple Representations Notes</td>
<td>Individual Whole group</td>
</tr>
<tr>
<td></td>
<td>• Multiple Representations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• My Reflections: Error Analysis</td>
<td>Individual</td>
</tr>
<tr>
<td>Elaborate</td>
<td></td>
<td>Pairs of students</td>
</tr>
<tr>
<td>Evaluate</td>
<td></td>
<td>Individual</td>
</tr>
</tbody>
</table>

Key vocabulary terms are identified.

Core questions are provided for each lesson. The activities within each lesson are designed to support student learning.

Materials for each phase are summarized on one page for ease in preparation.

Grouping sizes for each phase are summarized to assist in the arrangement of the classroom.
What is in a lesson found in *Closing the Distance: A Flexible Tutorial*?

**Multiple Representations**

**ENGAGE**

2. Prompt students to use the graph provided to complete a table of values and write a function that models it.
3. Actively monitor student work. Provide feedback for correct answers, and ask facilitation questions when appropriate.

**Facilitation Questions**

- **How could you determine the value of y when given the value of x?**
  Identify the x-coordinate on the function and study the y-axis to determine the corresponding y-coordinate for this x-coordinate.

- **How could you determine the value of x when given the value of y?**
  Identify the y-coordinate on the function and study the x-axis to determine the corresponding x-coordinate for this y-coordinate.

- **How could you determine the equation for the graph?**
  Because the graphed function is a parabola, begin with the parent function \( y = x^2 \) and determine which transformations have occurred.

**EXPLORE**

1. Distribute *Creating Other Representations* to each student. Distribute *Graphs, Multiple Representations*, and *Spinners* to each pair of students.
2. Prompt students to use their pencil and the paper clip to create a spinner.
3. Students will spin to determine which two representations they will create for each problem. A representation cannot be used more than two times during the activity.
4. Actively monitor student work. Provide feedback for correct answers, and ask facilitation questions when appropriate.

**Facilitation Questions**

- **What values do you need to consider to use an algebraic representation to create a table, mapping, or graph of a function?**
  To create a table or a mapping from an algebraic representation, choose different values for the x values of the table; then substitute each x value into the algebraic expression.

Each phase includes detailed directions to implement the activity. Titles of activity masters and student pages are printed in bold for ease of reference.

Suggested time allotments for each phase are provided.

Each phase includes facilitation questions to help students who may be struggling to interpret or process components of the activity.
What is in a lesson found in *Closing the Distance: A Flexible Tutorial*?

### Multiple Representations

4. Upon completion of Multiple Representations, prompt the students to complete My Reflections: Error Analysis for this lesson. Prompt the students to note errors made during the lesson to determine if a pattern exists that needs to be addressed.

---

#### Answer Key and Error Analysis for Independent Practice

<table>
<thead>
<tr>
<th>Question Number</th>
<th>Correct Answer</th>
<th>Reporting Category</th>
<th>TEKS</th>
<th>Conceptual Error</th>
<th>Procedural Error</th>
<th>Guess</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>3</td>
<td>A.5C</td>
<td>B</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>1</td>
<td>A.10</td>
<td>A</td>
<td>B</td>
<td>D</td>
</tr>
<tr>
<td>3</td>
<td>A</td>
<td>1</td>
<td>A.10</td>
<td>B</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>4</td>
<td>C</td>
<td>3</td>
<td>A.5C</td>
<td>A</td>
<td>B</td>
<td>D</td>
</tr>
</tbody>
</table>

Each selected-response item is labeled with the STAAR™ reporting category, a content student expectation, and an underlying processes and tools student expectation as appropriate. Incorrect answer choices are classified according to type.
Each lesson ends with an opportunity for student reflection as the student self-assesses errors that may or may not have been made in each phase of the lesson. Following this self-assessment, students are prompted to set a goal for improvement and to note strengths with the lesson’s topic.
Each follow-up activity includes directions, an activity, and a prompt to explain or justify one’s answers.
Each follow-up activity includes a “Parent’s Corner” that provides answers to the activity as well as questions to prompt mathematical conversations about the topic with possible responses.
Interpreting Situations

TEKS

A.1 The student understands that a function represents a dependence of one quantity on another and can be described in a variety of ways.  
(A) The student is expected to describe independent and dependent quantities in functional relationships. Supporting Standard  
(E) The student is expected to interpret and make decisions, predictions, and critical judgments from functional relationships. Readiness Standard

A.2 The student uses the properties and attributes of functions.  
(C) The student is expected to interpret situations in terms of given graphs or create situations that fit given graphs. Supporting Standard

A.3 The student understands how algebra can be used to express generalizations and recognizes and uses the power of symbols to represent situations.  
(A) The student is expected to use symbols to represent unknowns and variables. Supporting Standard

A.5 The student understands that linear functions can be represented indifferent ways and translates among their various representations.  
(A) The student is expected to determine whether or not given situations can be represented by linear functions. Supporting Standard

STAAR™ Reporting Category

1 Functional Relationships  The student will describe functional relationships in a variety of ways.
2 Properties and Attributes of Functions  The student will demonstrate an understanding of the properties and attributes of functions.
3 Linear Functions  The student will demonstrate an understanding of linear functions.
Core Questions
By the end of this lesson, students should be able to answer these core questions:

- How can you interpret or create a situation from a given representation?
- How can you identify the y-intercept of functional relationships from a graph, a table, or an equation?
- How can you use the provided representation to determine specific function values?

Vocabulary Focus
- dependent variable
- independent variable
- x-intercept
- y-intercept

Lesson Preparation
Students may use a graphing calculator and the STAAR™ Algebra I Reference Materials as needed throughout the lesson. Reference materials can be found at http://www.tea.state.tx.us/student.assessment/staar/math/.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Materials</th>
<th>Instructional Grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engage</td>
<td>♦ What Does This Mean?</td>
<td>Pairs of students</td>
</tr>
<tr>
<td>Explore</td>
<td>♦ Matching Scenarios</td>
<td>Individual or pairs of students</td>
</tr>
<tr>
<td>Explain</td>
<td>♦ Interpreting Situations Notes</td>
<td>Whole group</td>
</tr>
<tr>
<td>Elaborate</td>
<td>♦ Question Scenarios</td>
<td>Individual</td>
</tr>
<tr>
<td>Evaluate</td>
<td>♦ Interpreting Situations</td>
<td>Individual</td>
</tr>
</tbody>
</table>
**ENGAGE**

1. Distribute *What Does This Mean?* to each student. Prompt pairs of students to decide who will be partner A and who will be partner B.

2. Have each student write a scenario that uses the variables defined for either partner A or partner B for each graph.

3. Prompt students to compare their scenarios with their partners to identify similarities and differences.

4. Actively monitor student work and ask facilitation questions when appropriate.

**Facilitation Questions**

- **Which variable would be on the x-axis? The y-axis?**
  The independent variable (number of months or number of minutes) would be on the x-axis. The dependent variable (amount of money in savings or number of blocks from school) would go on the y-axis.

- **How could you interpret the meaning of the y-intercept of the graph?**
  The y-intercept represents the initial value for the situation.

- **How could you interpret the meaning of a positive slope of a segment? A negative?**
  A positively sloped segment means that the dependent variable (money or blocks) is increasing as the independent variable increases (months or minutes). A negatively sloped segment means that the dependent variable (money or blocks) is decreasing as the independent variable increases (months or minutes).

- **How could you interpret the meaning of a horizontal segment?**
  A horizontal segment means that the dependent variable (money or blocks) is remaining constant as the independent variable (months or minutes) increases.

**EXPLORE**

1. Distribute *Matching Scenarios* and *Matching Scenarios Cards* to each student.

2. Prompt students to cut the *Matching Scenarios Cards* on the dotted lines.
3. Prompt students to identify the independent and dependent variables for each situation by completing the indicated statements. For each scenario, prompt students to attach the representation that matches the scenario.

4. Actively monitor student work and ask facilitation questions when appropriate.

Facilitation Questions

- **When you read the problem, what numbers in the problem are related? Why?**
  Sample answer for Yamillet’s gift card scenario:
  The gift card initially had a value of $150, and she spent $65. The difference of these amounts results in the balance on the card after the first year.

- **What does the problem imply about a rate of change?**
  Sample answer for Yamillet’s gift card scenario:
  The gift card company charges 12 cents each day after the first year.

- **How could you determine if the scenario is linear?**
  If the scenario involves a situation where the dependent variable increases or decreases at a constant rate when compared to the independent variable, then the situation is linear.

- **How could you determine if a situation is quadratic?**
  A function could be quadratic if the values of the dependent variable increase and then decrease (or decrease and then increase).

- **How could you determine if a specific value is included in the representation?**
  Look to determine if the value is a point on the graph or in the table. For an equation, substitute the x-value and y-value and determine if the resulting equation is true.

**EXPLAIN**

1. Distribute **Interpreting Situations Notes** to each student. Prompt students to cut along the dotted lines and fold along the solid lines to create two accordion-style folds.

2. Prompt students to examine the linear graph, and guide students in a discussion to answer the questions. Repeat for the quadratic graph.

3. Actively monitor student work, and ask facilitation questions when appropriate.
Facilitation Questions

- **What is the y-intercept? How would you label those values to give them meaning for this problem?**
  
  Furniture: The y-intercept represents a one-time cost for the rental. The label would be cost in dollars.
  
  Rocket: The y-intercept represents the height from which the rocket was launched. The label would be height in feet.

- **How many lines are between values on the y-axis? How can you determine the values they represent?**
  
  Furniture: There is one line between the values on the y-axis, so each line would represent 50.
  
  Rocket: There are three lines between the values on the y-axis, so each line would represent 25.

**ELABORATE**

1. Distribute **Question Scenarios** to each student.
2. Prompt students to complete the two questions for each scenario. Prompt students to use the representation found during the explore phase of the lesson to assist when answering the questions.
3. Actively monitor student work and ask facilitation questions when appropriate.

Facilitation Questions

- **Which representation matched this situation? How might the representation help you answer the question posed by the problem?**
  
  Sample Answer for Yamilet’s gift card scenario: The linear graph matched this situation. To find how long she can wait for the $52 item, find the ordered pair for 
  
  \((x, 52)\), where \(x\) represents the number of days. To find the zero balance, locate the x-intercept on the graph.

- **What is the significance of the x-intercept in a function?**
  
  The x-intercept is when the dependent variable, \(y\), is equal to zero. In scenarios, for example, it can represent a height of 0 or a zero balance on an account.

- **How could you determine the rate in a linear situation?**
  
  From a graph or a table, determine the slope by finding the change in \(y\) and dividing by the change in \(x\).
How could you determine a specific function value from a graph? Equation?
From a graph, locate the desired x-value and then look vertically to find the corresponding y-value on the graph. Or locate the desired y-value and then look vertically to find the corresponding x-value on the graph. From an equation, substitute the x-value into the function and solve for y. Or substitute the y-value into the function and solve for x.

EVALUATE

1. Distribute Interpreting Situations to each student.
2. Prompt students to complete Interpreting Situations independently.
3. Upon completion of Interpreting Situations, the teacher should use the following error analysis to assess student understanding of the concepts and procedures the class addressed in the lesson.
4. Upon completion of Interpreting Situations, prompt students to complete My Reflections: Error Analysis for this lesson. Prompt the students to note errors made during the lesson to determine if a pattern exists that needs to be addressed.

Answer Key and Error Analysis for Independent Practice

<table>
<thead>
<tr>
<th>Question Number</th>
<th>Correct Answer</th>
<th>Reporting Category</th>
<th>TEKS</th>
<th>Conceptual Error</th>
<th>Procedural Error</th>
<th>Guess</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B</td>
<td>1</td>
<td>A.1E</td>
<td>A</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>1</td>
<td>A.1A</td>
<td>A</td>
<td>B</td>
<td>D</td>
</tr>
<tr>
<td>3</td>
<td>B</td>
<td>1</td>
<td>A.1E</td>
<td>C</td>
<td>A</td>
<td>D</td>
</tr>
<tr>
<td>4</td>
<td>D</td>
<td>1</td>
<td>A.1E</td>
<td>A</td>
<td>C</td>
<td>B</td>
</tr>
</tbody>
</table>

Teacher Notes:

________________________
________________________
________________________
________________________
________________________
________________________
________________________
________________________
Choose one person to be Partner A and one to be Partner B. Use the assigned variables to label the axes for each graph, and then write a scenario to match the graph. Compare your scenarios with your partner’s.

**Sample Answers.**

<table>
<thead>
<tr>
<th>Partner A</th>
<th>Partner B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of months</td>
<td>Number of minutes</td>
</tr>
<tr>
<td>Amount of money in savings</td>
<td>Number of blocks from school</td>
</tr>
</tbody>
</table>

**Partner A:** She opened an account and each month for 5 months she added $100, then she stopped depositing money for 4 months. She then started depositing $75 a month.

**Partner B:** She walked away from school at a constant rate, then stopped to rest. Then she began walking away from school again at a slower pace.

**Partner A:** She opened an account and each month for 8 months she added $100, then she withdrew $75 each month.

**Partner B:** She walked away from school at a constant rate for 10 minutes, then turned around and walked back towards school at a slower rate.

**Partner A:** She had $1200 in an account and withdrew $100 each month for 8 months, then she began depositing $75 a month.

**Partner B:** She was 20 blocks from school and started walking to school at a constant rate. After 15 minutes, she turned around and headed away from school at a faster rate.
### Matching Scenarios

**Answer Key**

For each scenario on the left, identify the independent and dependent variables and find the representation that matches the scenario.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Dependent Variable</th>
<th>Independent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hannah is monitoring water remaining in a flooded area as it is draining at a constant rate. After draining for 10 minutes, there are 54 cubic feet left in the flooded area.</td>
<td>The <strong>amount of water remaining</strong> depends on the <strong>number of minutes passed</strong>.</td>
<td></td>
</tr>
<tr>
<td>When Jeremy hits a baseball, the height of the ball and the horizontal distance the ball is from the home plate are recorded. It is found that the ball is about 44 feet high when it is 50 feet from home plate and reaches a maximum height of about 85 feet.</td>
<td>The dependent variable: <strong>height of the ball</strong>&lt;br&gt;The independent variable: <strong>horizontal distance</strong></td>
<td></td>
</tr>
<tr>
<td>A company is analyzing how its profit is affected by changes in how much it charges per unit. The company has found that if it charges $10 per unit or $14 per unit, the profit, in thousands of dollars, will be 70.</td>
<td>The dependent variable: <strong>amount of profit</strong>&lt;br&gt;The independent variable: <strong>cost per unit</strong></td>
<td>$f(x) = -0.5x^2 + 12x$</td>
</tr>
</tbody>
</table>
Yamilet was given a gift card initially worth $150. She spent $65 from the gift card during the first year of having the card. The gift card company charges 12 cents each day after the first year.

The amount of money remaining depends on the number of days after the first year.

Marlissa has purchased $85 worth of a rare metal as an investment. Unfortunately, the value of the metal is decreasing at a rate of 1.2% each month.

The value of the metal depends on the number of months.

A cleaning company cleans only buildings with 10 or more offices. It is offering a promotion where the first 10 office cleanings cost $65 and each additional office cleaning costs $12.

\[ f(x) = 12(x - 10) + 65 \]

The dependent variable: cost of cleaning
The independent variable: number of offices
**Interpreting Situations Notes**

**Answer Key**

What do the intercepts represent?

The **y**-intercept represents the height from which the rocket was launched. The **x**-intercept represents the time when the rocket landed.

What do the coordinates of a point on the graph tell us?

A coordinate tells us the amount of time after the rocket launched and the position of the rocket. For example, (9, 175) tells me that the rocket was 175 feet above ground 9 seconds after it was launched.

What do the labels on the graph tell us?

The title of the graph tells us that the graph is about the path of a rocket launch. The label on the **x**-axis tells us that the independent variable is time measured in seconds. The label on the **y**-axis tells us that the dependent variable is height above ground measured in feet.

What can we learn from the scaling on the axes?

The scaling on the **x**-axis shows us that each vertical line is 0.5 seconds. The scaling on the **y**-axis shows us that each horizontal line is 25 feet. What can we learn from the scaling?

The **y**-intercept is a one-time cost for the furniture rental. The **x**-intercept is not reasonable for this situation; it would represent negative time.

What do the intercepts represent?

The **y**-intercept represents the cost of renting the furniture for a specified number of months. For example, (6, 1500) tells me that 6 months of furniture rental will cost $1500.

What do the coordinates of a point on the graph tell us?

A coordinate tells us the cost of renting the furniture for a specified number of months. For example, (9, 175) tells me that 9 months of furniture rental will cost $175.

What can we learn from the scaling on the axes?

The scaling on the **x**-axis shows us that each vertical line is 1 month. The scaling on the **y**-axis shows us that each horizontal line is $50.
**Question Scenarios**

Use the scenarios and their representations from *Matching Scenarios* to answer the following questions.

<table>
<thead>
<tr>
<th>Hannah is monitoring water remaining in a flooded area as it is draining at a constant rate. After draining for 10 minutes, there are 54 cubic feet left in the flooded area.</th>
<th>At what rate is the flooded area draining?</th>
</tr>
</thead>
<tbody>
<tr>
<td>When Jeremy hits a baseball, the height of the ball and the horizontal distance the ball is from the home plate are recorded. It is found that the ball is about 44 feet high when it is 50 feet from home plate and reaches a maximum height of about 85 feet.</td>
<td>Approximately how far is the ball from home plate when it is 60 feet high?</td>
</tr>
<tr>
<td>A company is analyzing how its profit is affected by changes in how much it charges per unit. The company has found that if it charges $10 per unit or $14 per unit, the profit, in thousands of dollars, will be 70.</td>
<td>What price would yield the largest profit for the company?</td>
</tr>
<tr>
<td></td>
<td>What price range would give the company a profit greater than $64,000?</td>
</tr>
<tr>
<td>Question</td>
<td>Answer</td>
</tr>
<tr>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>If Yamilet wants to buy an item that costs $52 including tax, how long can she wait?</td>
<td>If she does not use the gift card, in how many days will there be a zero balance on the card?</td>
</tr>
<tr>
<td>Yamilet was given a gift card initially worth $150. She spent $65 from the gift card during the first year of having the card. The gift card company charges 12 cents each day after the first year.</td>
<td>Marlissa has purchased $85 worth of a rare metal as an investment. Unfortunately, the value of the metal is decreasing at a rate of 1.2% each month.</td>
</tr>
<tr>
<td>About how much will the rare metal be worth after 2 years?</td>
<td>Estimate when the value of the rare metal would be less than $8.</td>
</tr>
<tr>
<td>Marlissa has purchased $85 worth of a rare metal as an investment. Unfortunately, the value of the metal is decreasing at a rate of 1.2% each month.</td>
<td>A cleaning company cleans only buildings with 10 or more offices. It is offering a promotion where the first 10 office cleanings cost $65 and each additional office cleaning costs $12.</td>
</tr>
<tr>
<td>What is the average price per office if 25 offices are cleaned?</td>
<td>If a building has 150 offices, is it less expensive to use this company’s promotion or a different company that charges $11.50 per office?</td>
</tr>
</tbody>
</table>