

**Question 1****RUBRIC**

Score	Description
5	<p>Student response shows a thorough understanding of writing expressions from a sentence.</p> <ul style="list-style-type: none">• Student correctly writes the expression. (2 points)• Student defines the variable. (1 point)• Student explains how to find the expression.(2 points)

SAMPLE RESPONSE

$$12.50x + 10$$

x = the number of bags of sugar

I know that you need to multiply the number of bags of sugar that you buy by \$12.50 per bag. Then you need to add \$10 to that cost for the shipping.

Question 2**RUBRIC**

Score	Description
3	<p>Student response shows a thorough understanding of interpreting a description of an expression.</p> <ul style="list-style-type: none">• Student correctly defines what is represented by x. (1 point)• Student correctly identifies what 10.90 represents. (1 point)• Student correctly identifies the second term of the expression as cost of the shipping of the number of bags. (1 point)

SAMPLE RESPONSE

In this expression, x is the number of bags of sugar purchased. Each bag of sugar costs \$10.90 and then costs \$3 per bag to ship.

NOTE: Students may reverse the cost per bag shipping costs. This is acceptable.

Question 3**RUBRIC**

Score	Description
3	Student response shows a thorough understanding of how to apply properties and generate equivalent expressions <ul style="list-style-type: none">• Student correctly simplifies the expression. (1 point)• Student explains how to simplify the expression. (2 points)

SAMPLE RESPONSE

Yes, Sugar Seller's expression could be $13.90x$. \$13.90 is the cost of the bag and the shipping, which needs to be multiplied by the number of bags, x .

Question 4**RUBRIC**

Score	Description
3	Student response shows a thorough understanding of evaluating expressions with exponents. <ul style="list-style-type: none">• Student correctly solves the expression. (1 point)• Student explains or shows how to find the answer. (2 points)

SAMPLE RESPONSE

$$7^2 + 4$$

$$49 + 4$$

$$53$$

Question 5**RUBRIC**

Score	Description
3	<p>Student response shows a thorough understanding of writing expressions and the meaning of variables in an expression.</p> <ul style="list-style-type: none">• Student writes a completely correct expression. (1 point)• Student identifies what is represented by the variable. (1 point)• Student explains what a variable represents in terms of a value. (1 point)

SAMPLE RESPONSE

In this expression, x would equal the number of miles between the bakery where the sugar needs to be delivered and Sugar Warehouse. x does not have a value because we are not talking about a specific bakery at this time.

$$(x \div 500 \text{ miles/day}) + 4 \text{ days}$$

Question 6**RUBRIC**

Score	Description
6	<p>Student response shows a thorough understanding of simplifying expressions using the properties of operations.</p> <ul style="list-style-type: none">• Student correctly simplifies each expression. (1 point each)• Student identifies the property or properties used. (1 point each)

SAMPLE RESPONSE

Blueberry Farms: $6x + 2$, distributive property

Berry Land: $2x + 5x = 7x$, distributive property and properties of operations (addition of like terms)

Sunshine Blues: $4.5x$, properties of operations

Question 7

RUBRIC

Score	Description
2	<p>Student response shows a thorough understanding of simplifying expressions.</p> <ul style="list-style-type: none"> • Student correctly simplifies the expression (1 point) • Student shows or explains how to find the answer. (1 point)

SAMPLE RESPONSE

$$2(2x + 1.5x) = 4x + 3x = 7x$$

I used the distributive property and the properties of operations (addition), and found the same rate as Sunshine Blues.

Question 8

RUBRIC

Score	Description
1	<p>Student response shows a thorough understanding of writing and solving inequalities</p> <ul style="list-style-type: none"> • Student writes the correct inequality from the information provided. (1 point)

SAMPLE RESPONSE

$$610 \geq 12x + 10$$

Question 9

RUBRIC

Score	Description
3	<p>Student response shows a thorough understanding of how to solve real-world equations.</p> <ul style="list-style-type: none"> • Student correctly solves both equations (2 points) • Student correctly states which is a better deal (1 point)

SAMPLE RESPONSE

Original Deal: $6(30) + 2 = 180 + 2 = 182$

New Deal: $6.50(30) = 195$

The original deal is less expensive.

Question 10

RUBRIC

Score	Description
3	Student response shows a thorough understanding of how to solve real world equations <ul style="list-style-type: none">• Student correctly solves the equation. (1 point)• Student shows or explains how to find the answer. (2 points)

SAMPLE RESPONSE

$$(x \div 500 \text{ miles/day}) + 4 \text{ days} = 8 \text{ days}$$

$$(x \div 500 \text{ miles/day}) + 4 \text{ days}$$

$$x = 2000 \text{ miles maximum}$$

Question 11

RUBRIC

Score	Description
4	Student response shows a thorough understanding of how to write expressions, distinguish between the independent and dependent variable, and analyze the relationship using graphs and tables. <ul style="list-style-type: none">• Student write the correct equation for the situation and defines the variables (2 points)• Student correctly makes a table of 5 pairs of numbers (2 points)• The graph is scored by the computer. (1 point)

SAMPLE RESPONSE

$$y = 5x - 1$$

x = the diameter of the muffin (independent)

y = the number of blueberries per muffin (dependent)