Math 4 Honors Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lesson 2-3 Learning Check Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Score: 0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4

In this learning check, you are being assessed on the following learning goals:

* *I can use determinants to find whether a matrix is invertible.*
* *I can use matrices to solve systems of linear equations.*

1. Given . Find a value for *x* such that *A* is a singular matrix.

2. Given  Find *B*-1. Simplify all algebraic expressions.

**You are selling Girl Scout cookies. Today, you have only sold boxes of Thin Mints and boxes of**

**Tagalongs. Each box of Thin Mints is $4, which each box of Tagalongs is $3. You have sold a**

**total of $77 worth of boxes of cookies. You have sold 21 total boxes of cookies. Let *T =* Tagalongs**

**and *M* = Thin Mints.**

3. Which system of equations models this situation?

(a) (b)  (c)  (d) 

4. Which matrix equation models this system of equations?

(a)  (b) 

(c)  (d) 

5. Solve the matrix equation from number (4).

*M* = \_\_\_\_\_\_\_

*T* = \_\_\_\_\_\_\_

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**Tickets to a college drama production cost $2.50 for students and $4.00 for non-students. If 285 tickets were sold for a total of $1012.50.**

6. Set up a matrix equation and solve for the number of student tickets that were sold.

(a) 143 (b) 200 (c) 85 (d) Correct answer not shown