NCTM Content Standards Assessment Rubric

Algebra

Student's Name: _____ Assignment: _____ Level: _____

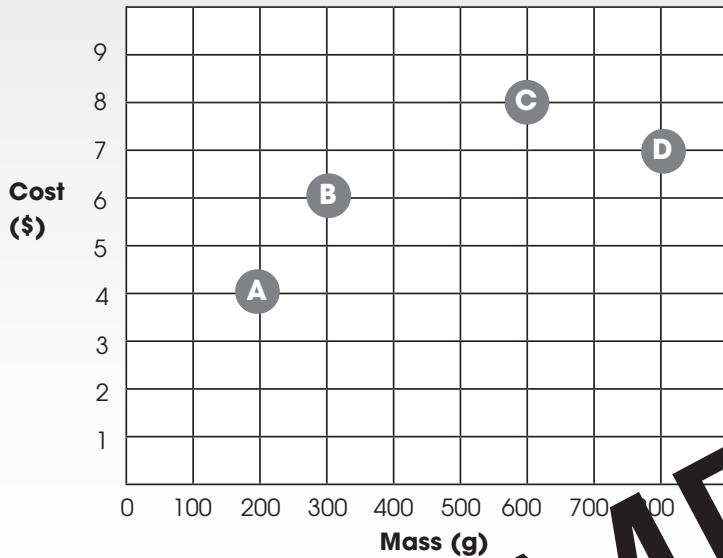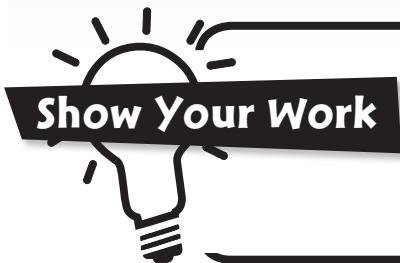|	Level 1	Level 2	Level 3	Level 4
Understanding the Algebraic Concepts: Sorting, Patterning, Graphing, Equations and Quantitative Change	• Demonstrates a limited understanding of Sorting, Patterning, Graphing, Equations and Quantitative Change	• Demonstrates a basic understanding of Sorting, Patterning, Graphing, Equations and Quantitative Change	• Demonstrates a good understanding of Sorting, Patterning, Graphing, Equations and Quantitative Change	• Demonstrates a thorough understanding of Sorting, Patterning, Graphing, Equations and Quantitative Change
Applying Appropriate Technique, Tools, and Formulas to Solve Algebraic Problems	• Demonstrates limited ability in using formulas to solve algebraic equations	• Demonstrates some ability in using formulas to solve algebraic equations	• Demonstrates satisfactory ability in using formulas to solve algebraic equations	• Demonstrates strong ability in using formulas to solve algebraic equations

SAMPLE

STRENGTHS:

WEAKNESSES:

NEXT STEPS:

Task Sheet 8

8) The following graph shows the relationship between the mass and cost of four different brands of maple syrup.

Cost
($)

9
8   C
7   D
6   B
5
4 A
3
2
1

0   100 200 300 400 500 600 700 800

Mass (g)

Which statement is true?

a) **Brand A has the lowest cost.**   Yes ☐   No ☐

b) **Brand B has the smallest mass.**   Yes ☐   No ☐

c) **Brand C has the highest cost per gram.**

Show Your Work

Yes ☐   No ☐

Explore With Technology

Visit the website http://www.cut-the-knot.org, and experience challenging and interactive algebraic problems.

Click on the different activities listed under the Algebra section. See how many problems you can solve.

Review B

a) Ike's school decides to hold a carwash fundraiser for their school trip. The school spends $40 for all the equipment needed for the carwash. They end up paying $3 for water/supplies for each car they wash. They charge $6 for each car washed. The formula used to calculate their earnings is **E = 6x − (3x + 40)** where **E** = Earnings and **x** = cars.

Calculate their profit if they wash 50 cars:

Show Your Work

Answer: _____

b) **On the number line below graph the solution to x**

-2x = -6

-9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9

c) **Solve these equations showing your work:**

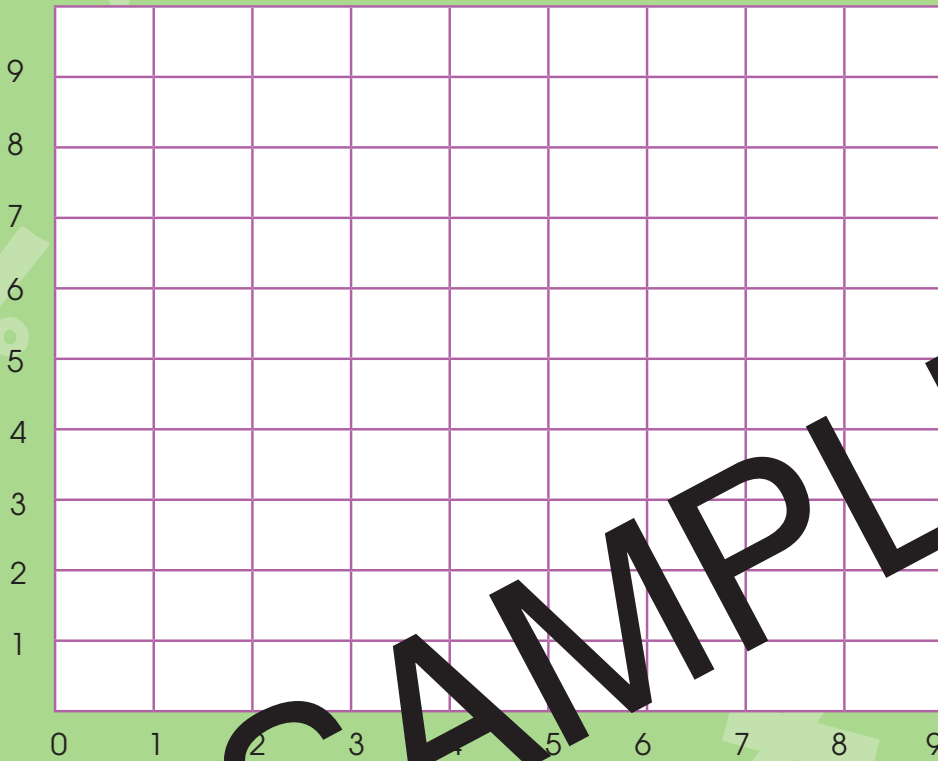i) 3x + 7 = 19

ii) 17 − x = 4

d) **Simplify the following equation:**

$4x^2 - 2x + 6 + 3x - x^2$

SAMPLE

Plotting and Coordinates

a) **On the following graph, cite the coordinates for the objects listed in the chart below.**

SAMPLE

Object	Coordinates
1.	
2.	
3.	
4	
5.	