

Name: _____
Algebra 1

Date: _____
Band: _____

Instructions: Choose one performance task. Write all your work on a separate clean piece of paper and attach it to this page.

Big Idea Variable

You can use variables to represent quantities that are unknown or vary and to write expressions and equations.

Performance Task 1

Solve. Show all of your work and explain your steps.

A riding-stable manager is planning a nutritional diet for 6 horses. The manager finds the table below in a guide about horse health. The cost of 1000 Calories of horse feed is \$0.15.

- What is an expression for the total cost of feeding h horses?
- Explain why your expression will give the total cost. Use a number for h as you explain your expression.

Calories Needed				
Number of Horses	1	2	3	4
Daily Calories Needed	15,000	30,000	45,000	60,000

Performance Task 2

Use the table at the right to complete each part.

- Copy the table. Extend the table by writing expressions for y when $x = 5, 6,$ and 7 .
- Write an equation that relates x and y . Use your equation to find the value of y when $x = 15$.

x	y
1	7
2	9
3	11
4	13

Big Idea Properties

The properties of real numbers describe relationships that are always true. The properties of real numbers are true in both arithmetic and algebra. You can use them to rewrite expressions.

Performance Task 3

Solve. Show all of your work and explain your steps.

You are buying gifts for 10 people. You decide to buy each person either a CD or a DVD. A CD costs \$12 and a DVD costs \$20.

- Let c = the number of CDs you decide to buy. What is an expression in terms of c for the number of DVDs you buy?
- What is an expression in terms of c for the cost of the CDs? For the cost of the DVDs?
- Write and simplify an expression in terms of c for the *total* cost of all the gifts you buy. What properties of real numbers did you use to simplify the expression?

Performance Task Assessment: Analytic Holistic Scoring**Developing Autonomy—The student**

3	Persevered to complete the problem without help
2	Completed most of the problem without help
1	Needed key hints to complete the problem
0	Needed extensive guidance to work the problem

The Solution Process—The student's work showed

3	A complete and appropriate solution process
2	An appropriate solution process that is almost complete
1	An appropriate process that is partially complete
0	An inappropriate process or no evidence of a process

The Conclusion/Answer—The student's answer is an

3	Accurate conclusion, supported by valid evidence and reasons, appropriate to this problem and context
2	Inaccurate but logical conclusion, supported by evidence and reasoning but incorrect due to a minor factual error (in details of problem, in computation, recall a formula, etc.) or minor mistake in reasoning
1	Inaccurate but logical conclusion that overlooks, or gets wrong significant facts (about the problem, the rule, computation, etc.)
0	Inappropriate conclusion: not supported by facts and logic, or there is no conclusion

Teacher Comments: