

Real World Algebraic Examples

Standard: Students will apply properties of segments and angles to algebraically solve for unknown variables.

Task: You will create six real-world examples of algebraic problems that included the geometric properties angle bisector, midpoint, linear pair, and vertical angles. You must use each property at least once among your six examples. After you create each example, write a description that shows the problem, solves the problem and explains what your answer represents. An example of a real-world problem might be:

The side of a house is has a down spout at it's *midpoint*. On one side of this down spout, there is 6 feet of clear wall and 3 windows. The other side has 9 feet of clear wall and 2 windows.

Algebraic problem: $6 + 3x = 9 + 2x$ (The answer $x=3$ represents the width of each window)

Include a description of each example that answers the following question:

- What is the algebraic representation of your real-world example?
- How does your algebraic problem represent the real-world example?
(Be sure to include an explanation of the geometric property used.)
- How would you solve the problem and what is the answer? (Work shown will suffice)
- What does your answer represent?

Your work will be graded using the following rubric:

	Unsatisfactory 0-1pt.	Fair. 2 pts.	Satisfactory 3 pts.	Excellent 4 pts.
Real world example	Less than four real-world examples.	Four real-world examples.	Five real-world examples.	Six real-world examples.
Description #1	One or no questions are answered effectively	Two questions are answered effectively .	Three questions are answered effectively .	All four questions are answered effectively .
Description #2	One or no questions are answered effectively	Two questions are answered effectively .	Three questions are answered effectively .	All four questions are answered effectively .
Description #3	One or no questions are answered effectively	Two questions are answered effectively .	Three questions are answered effectively .	All four questions are answered effectively .
Description #4	One or no questions are answered effectively	Two questions are answered effectively .	Three questions are answered effectively .	All four questions are answered effectively .
Description #5	One or no questions are answered effectively	Two questions are answered effectively .	Three questions are answered effectively .	All four questions are answered effectively .
Description #6	One or no questions are answered effectively	Two questions are answered effectively .	Three questions are answered effectively .	All four questions are answered effectively .