Pick 4 !!!

NAME _____ DATE _____

2 Chapter 2 Open-Ended Assessment

Demonstrate your knowledge by giving a clear, concise solution to each problem. Be sure to include all relevant drawings and justify your answers. You may show your solutions in more than one way or investigate beyond the requirements of the problem.

1. Explain two ways to determine whether a relation is a function. Use specific examples. Then write a relation that is *not* a function.

2. Give an example of a real-world situation for which there would be a negative rate of change.

3. The point-slope form of the equation of a line is $y - 2 = \frac{1}{2}(x + 6)$. Write the equation in slope-intercept form, then write the equation in standard form. Which of the three forms of the equation is most useful? Explain your choice.

4. Suppose you are looking at a scatter plot and the graph of a line of fit for the data points. The horizontal axis is labeled 1990, 1991, …, 2000. The vertical axis is labeled 0, 10, …, 100. You use a prediction equation to predict values for the years 1994 and 2005. Which prediction do you think would be more accurate? Why ?

5. Compare the graph of the parent function $f(x) = |x|$ with the graphs of the functions $g(x) = |x + 2|$ and $h(x) = |x - 3|$. How are the graphs similar? How are they different? How would the graph of $y = |x + 500|$ compare with the graph of the parent function?

6. When graphing the linear inequality $y \leq -2 + 5$, Alessia first graphed the line $y = -2x + 5$. She then selected the test point $(-1, 7)$ in order to complete her graph. Why did Alessia need a test point? What information did the point $(-1, 7)$ give Alessia about her graph?

7. Is the graph of the relation $y > |x + 3|$ a function? Explain.