

Unit 1 Spiral Review

Name: _____

1. In planning the post-prom party, the senior class officers at Kennedy High School get a price quotation from a local athletic club. There would be a basic charge of \$450 for the facility plus \$10 per student for food and drinks. The class officers decide to charge each student \$15 to attend the party. What income will they get if 250 students buy tickets?
 - a. Write a recursive function for this situation.
 - b. Write the explicit function for this situation.
 - c. **Neatly** display the number of students from 0 to 300, in steps of 50, in a function table.
Hint: (number of students, income)
 - d. How many tickets need to be sold to **break even**? Explain your reasoning.
2. Imagine folding a square piece of paper in half, then in half again, and then in half again, and so on. The fold marks at each stage divide the original square into a number smaller regions.
 - a. Write a recursive function for this situation.
 - b. Write the explicit function for this situation.
 - c. **Neatly** display the number of folds from 1 to 5, in steps of 1, in a function table.
Hint: (n folds, R regions)
 - d. Find the number of regions for 8 folds? Explain your reasoning.

Without use of your graphing calculator or computer software, match the following four rules to the graph sketches below. Explain your reasoning in each case. Scales on the axes are 1.

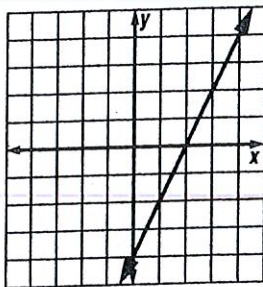
a. $y = 2x^2 - 4$

b. $y = 2^x$

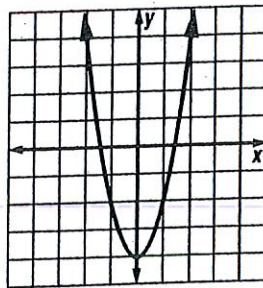
c. $y = 2x - 4$

d. $y = \frac{2}{x}$

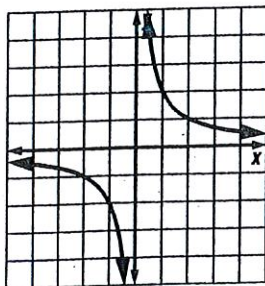
I



II



III



IV

