

6.1 Representing Patterns

MathLinks 9, pages 210–219

Key Ideas Review

Choose from the following terms to fill in the blanks for #1a) and #2a).

equation

four

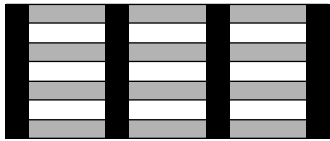
pattern

posts

rails

1. a) The fence below has a(n) _____. There are _____
_____ between pairs of _____.

b) Complete a table of values for this fence.



c) Describe the pattern.

2. a) You can use the pattern in the table to develop a(n) _____ for the fence.

b) The equation is _____.

c) How can you verify what you created in #2b)?

Check Your Understanding

3. a) Create a table of values showing the relationship between the perimeter length of each figure and the figure number.



Figure 1

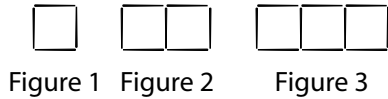
Figure 2

Figure 3

b) Write an expression to model the pattern. Explain what each variable represents.

c) Extend your table of values to the 10th figure.

4. a) Describe the relationship between the figure number and the number of toothpicks needed for each figure.



- b) Create a table of values to determine an equation for the model. Write the equation.
- c) Determine if one of the figures could have 2037 toothpicks in it. Show your thinking.
5. a) Jenny has lost part of her homework. Help her redo it by finishing the table of values for the first seven terms.

x	y
1	-4.5
	-7
	-9.5

- b) Develop an equation that models your table of values.
- c) Use your equation to determine the 67th term.
6. a) A basketball team can buy 12 warm-up jerseys for \$179.40. To put a design on any number of jerseys involves a one-time cost of \$181.80. If there are 12 people on the basketball team, develop an equation that shows the cost for one player.
- b) Assuming that the team can buy additional jerseys for the same cost per jersey as in a), and that the one-time cost for the design does not change, how much would one player pay if there are 15 people on the team?
- c) Create a table of values to show the cost of a single jersey if 1 to 15 players decide to buy a jersey.