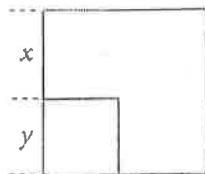


# Graphing Quad. Using a table Enrichment

**GPS** Student Page 264, Exercise 49

Refer to the diagram. Suppose you cut a small square from a square sheet of cardboard. Write an expression for the remaining area. Factor the expression.



**Read and Understand**

1. What is the length of one side of the big square, in terms of  $x$  and  $y$ ? \_\_\_\_\_
2. What is the length of one side of the small square? \_\_\_\_\_

**Plan and Solve**

3. Write an expression representing the area of the big square. \_\_\_\_\_
4. Write an expression representing the area of the small square. \_\_\_\_\_
5. Write an expression representing the area remaining after removing the small square from the big square. \_\_\_\_\_
6. Factor the expression. \_\_\_\_\_

**Look Back and Check**

7. To check your answer, substitute actual values into the expressions, for example  $x = 4$  and  $y = 2$ , and verify that the calculated areas agree with the diagram.

**Solve Another Problem**

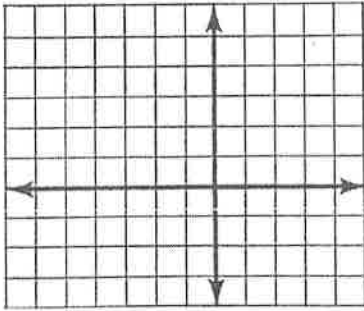
8. Suppose you cut four small squares, each with sides of  $y$ , from the square sheet of cardboard. Assume  $x > y$ . Write an expression for the remaining area. Factor the expression.

# FROM LINEAR TO QUADRATIC

Complete each table and graph the function.

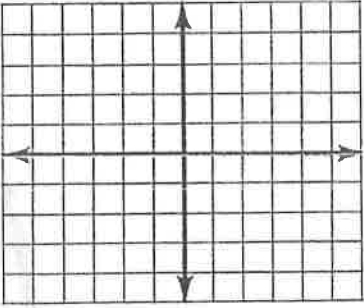
①  $y = 2x - 3$

x	y
5	
2	
0	
-1	



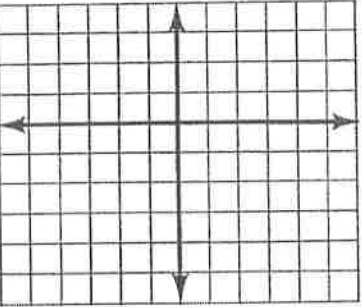
②  $y = x^2 - 5$

x	y
3	
2	
1	
0	
-1	
-2	
-3	



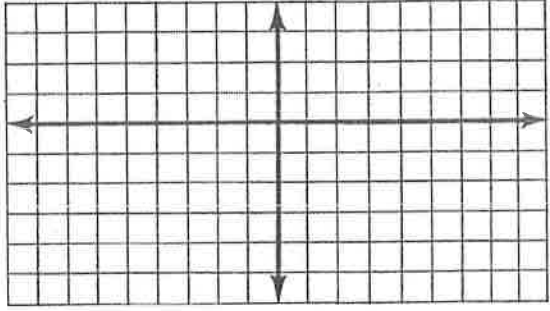
③  $y = x^2 + 4x$

x	y
1	
0	
-1	
-2	
-3	
-4	
-5	



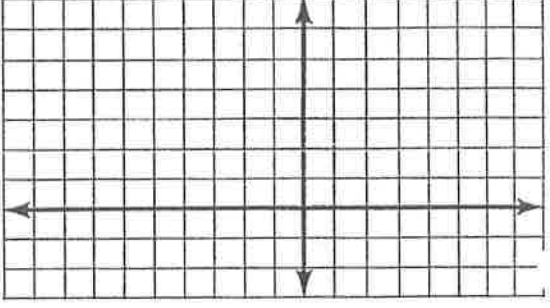
④  $y = x^2 + 2x - 7$

x	y
-5	
-4	
-3	
-2	
-1	
0	
1	
2	
3	



⑤  $y = -x^2 + 6x + 1$

x	y
7	
6	
5	
4	
3	
2	
1	
0	
-1	



⑥  $y = 2x^2 - 4x - 5$

x	y
4	
3	
2	
1	
0	
-1	
-2	

