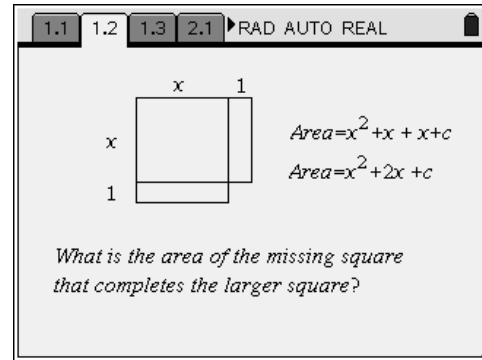




Problem 1 – Introduction

Your teacher will discuss the model you will use to explore the mathematics in this activity. You should use this space for notes about the discussion led by your teacher.



Problem 2 – Integer Lengths

On page 2.2, use the up arrow to change the value of l to 2, 3, 4, and 5. Find the area of the grey square and the larger square for each value of l .

Observe the relationship between the coefficient of x , labeled b , and the length of the grey square that completes the (larger) square. Fill in the table as you work, then answer the questions in the tns file.

l	b	c	Area
1	2	1	$x^2 + 2x + 1$
2			
3			
4			
5			

Problem 3 – Non-Integer Lengths

On page 3.2, use the up arrow to change the value of l . Find the area of the grey square and the larger square for each value of l .

Observe the relationship between the coefficient of x and the length of the grey square that completes the (larger) square. Fill in the table as you work, then answer the following questions:

l	b	c	Area
1.5			
2.5			
3.5			
4.5			
5.5			



1. How is the coefficient of x related to the length of the grey square?
2. How is the coefficient of x related to the value of c ?
3. What is a formula to find the value of c ?

Problem 4 – Applying your Knowledge

Answer the questions in Problem 4 of your .tns file to apply your knowledge of completing the square. Record your answers below.

Page 4.2:

Page 4.3:

Page 4.4:

Page 4.5:

Page 4.6:

Page 4.7:

Page 4.8:

Page 4.9: