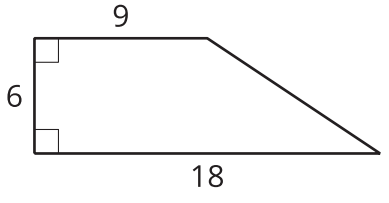
Lesson 1: Accessing Areas and Pondering Perimeters

- Let's think about rectangles.

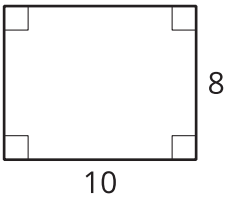
1.1: Which One Doesn't Belong: Quadrilaterals

Which one doesn't belong?

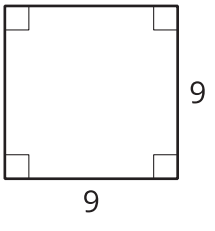
A



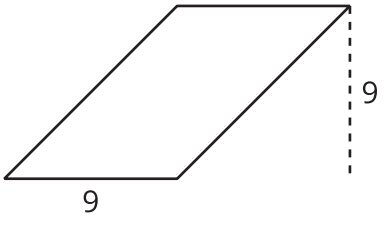
B



C



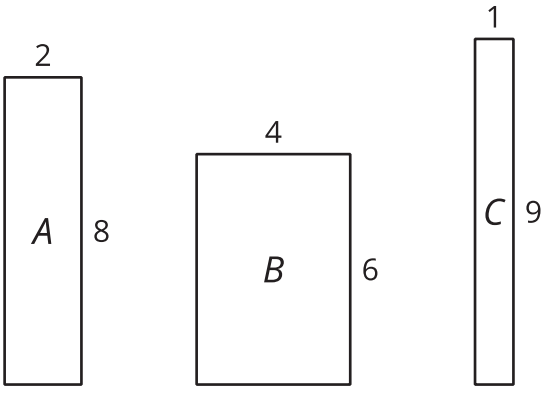
D



CC BY 2019 by Illustrative Mathematics®

1.2: Inspect Some Rectangles

Here are some rectangles.



1. Which rectangle has the greatest perimeter?

2. Which rectangle has the greatest area?

3. Find a rectangle with the same perimeter, but an even greater area than the previous answer.

4. For the remaining questions, tables are provided to organize your work. Rectangle D has a perimeter of 32 units.
   a. Find the side lengths of three different possible rectangles that have this perimeter.

   b. Find a pair of side lengths for rectangle D that give the greatest area in square units.

   c. Find a pair of side lengths for rectangle D that give the smallest area in square units.

length (units)	width (units)	perimeter (units)	area (square units)

CC BY 2019 by Illustrative Mathematics®

5. Rectangle E has an area of 36 square units.
   a. Find 3 pairs of side lengths that give this area.

   b. Find a pair of side lengths for rectangle E that give the greatest perimeter in whole-number units.

   c. Find a pair of side lengths for rectangle E that give the smallest perimeter in whole-number units.

length (units)	width (units)	perimeter (units)	area (square units)

CC BY 2019 by Illustrative Mathematics®

1.3: Inspect Some Tables

Here are two tables. The first shows some measurements for Rectangle A, with a side length of 5 cm. The second shows some measurements of Rectangle B, which is a square.

1. Complete the table for Rectangle A and be prepared to explain your reasoning.

length (cm)	width (cm)	perimeter (cm)	area (sq cm)
5	1		
5	2		
5	4		
5		20	
5			40
5		28	
5			50
5	x		

2. Complete the table for Rectangle B and be prepared to explain your reasoning.

length (cm)	width (cm)	perimeter (cm)	area (sq cm)
1	1		
2	2		
3	3		
4		16	
	8		
			100
	x		

CC BY 2019 by Illustrative Mathematics®

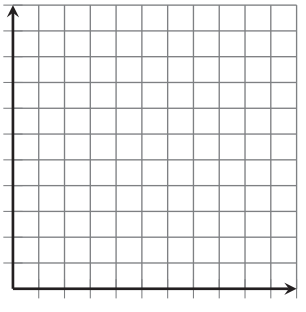
3. Sketch the graph of each pair of quantities, where the width is plotted along the x-axis.

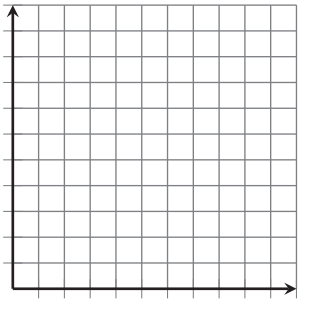
   a. x and the perimeter of Rectangle A

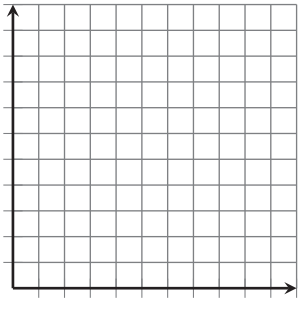
   b. x and the area of Rectangle A

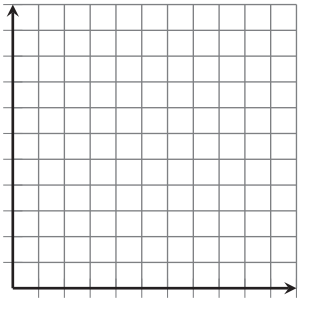
   c. x and the perimeter of Rectangle B

   d. x and the area of Rectangle B









CC BY 2019 by Illustrative Mathematics®