

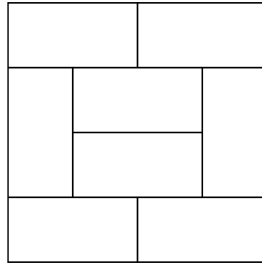


## Problem of the Week

### Problem B

### Mystery Dimensions

Eight congruent rectangles are arranged to form a larger rectangle as shown.



- (a) If the congruent rectangles each have a length of 6 cm and a width of 3 cm, what is the perimeter of the larger rectangle?
- (b) Suppose that the congruent rectangles each have a longer side of length  $L$  cm and a shorter side of length 4 cm. Suppose also that the perimeter of the larger rectangle is 64 cm.
- What is the value of  $L$ ?
  - What is the area of one of the eight congruent rectangles?

**EXTENSION:** Can you solve part (b) without knowing that the length of the shorter side of each rectangle is 4 cm? If so, how?