
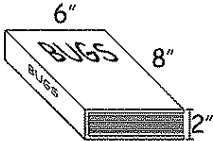


# Warm-Up 2

- <sup>pieces</sup> Grady distributed  $x$  pieces of candy evenly among nine Halloween bags such that every bag received the greatest possible number of whole pieces of candy, but some candy was left over. What is the greatest possible number of pieces that could have been left over?
- <sup>sq in</sup> Noah will mount a 5-inch by 5-inch photograph on an 8-inch by 10-inch mat board. How many square inches of mat board will be visible?  

- <sup>layers</sup> When a piece of paper is folded in half, there are two layers of paper. How many layers would there be if a piece of paper is folded in half a total of 10 times without ever unfolding it?
- <sup>\$</sup> Pi plates cost \$24 each. Shipping costs \$10 for orders under \$100 and \$15 for orders of \$100 or more. How much more does it cost to order and have delivered five Pi plates instead of four Pi plates?
- <sup>\$</sup> Charlene considers herself to be a great bargain shopper because she found a prom dress that cost her only \$22 before tax. The dress was on a rack labeled "50% off lowest marked price," and the lowest marked price was already a 75% reduction from the original price. What was the original price of the dress?
- <sup>inches</sup> Fisher wrote a book about bugs. He created the front cover, spine and back cover from one continuous piece of  $\frac{1}{4}$ -inch thick cardboard. The cardboard fits exactly over the pages, and the final dimensions of the book are 6 inches by 8 inches by 2 inches, as shown. If the entire cardboard piece (front, spine and back) were removed, what would be the sum of the length, width and thickness of the remainder of the book (the stack of paper pages)? Express your answer as a mixed number.  

- <sup>units</sup> Triangle ABC has a perimeter of 2007 units. The sides have lengths that are all integer values with  $AB < BC \leq AC$ . What is the smallest possible value of  $BC - AB$ ?
- For all positive integers  $n$ , the expression  $n!$  denotes the product of the first  $n$  positive integers. When  $5!$  is expressed as an integer, what is the ones digit?
- <sup>nurses</sup> A month ago the ratio of nurses to doctors on a hospital staff was 3:5. Since that time two additional nurses joined the staff, no nurses left and the number of doctors remained the same. The ratio of nurses to doctors on the hospital staff is now 4:5. How many nurses are now on the staff?
- <sup>feet</sup> Cooling a room requires 27 BTUs per square foot per hour. Jose buys an air conditioner with a power of 10,800 BTUs per hour. What is the width of the largest square room that the air conditioner can cool?