

Multi-Step Word Problems

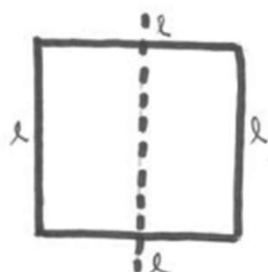
1. Pierre folded a square piece of paper vertically to make two rectangles. Each rectangle had a perimeter of 39 inches. How long is each side of the original square? What is the area of the original square? What is the area of one of the rectangles?

2. Elise saved \$184. She bought a scarf, a necklace, and a notebook. After her purchases, she still had \$39.50. The scarf cost three-fifths the cost of the necklace, and the notebook was one-sixth as much as the scarf. What was the cost of each item? How much more did the necklace cost than the notebook?

Multi-Step Word Problems

1. Pierre folded a square piece of paper vertically to make two rectangles. Each rectangle had a perimeter of 39 inches. How long is each side of the original square? What is the area of the original square? What is the area of one of the rectangles?

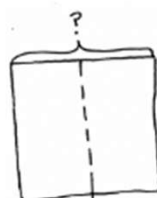
Solution A



Each side length = l
 $l + l + \frac{1}{2}l + \frac{1}{2}l = 3l = 39$

Each side of the square is 13".
 The square's area is $13\text{in} \times 13\text{in} = 169\text{in}^2$.
 The area of the rectangle is
 $13\text{in} \times 6\frac{1}{2}\text{in} = (13\text{in} \times 6\text{in}) + (13\text{in} \times \frac{1}{2}\text{in})$
 $= 78\text{in}^2 + 6.5\text{in}^2 = 84.5\text{in}^2$

Solution B



Rectangle $p = 39\text{in}$

Rectangle length $\square \times 2$
 Rectangle width $\square \times 2$ } 39

$6\text{ units} = 39$
 $1\text{ unit} = 6\frac{1}{2}$

Square's sides $6\frac{1}{2} + 6\frac{1}{2} = 13$

Square's area $13 \times 13 = 169$

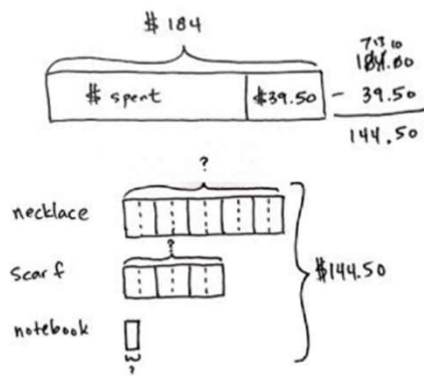
Rectangle area $169 \div 2 = 84.5$

The area of the square is 169in^2

The area of the rectangle is 84.5in^2

2. Elise saved \$184. She bought a scarf, a necklace, and a notebook. After her purchases, she still had \$39.50. The scarf cost three-fifths the cost of the necklace, and the notebook was one-sixth as much as the scarf. What was the cost of each item? How much more did the necklace cost than the notebook?

Solution A



$17\text{ units} = 144.50$
 $1\text{ unit} = 144.50 \div 17 = 8.50$

$\$8.50 \times 10 = \85
 $\$8.50 \times 6 = \51
 $\$8.50 \times 1 = \8.50
 $\$8.50 \times 9 = \76.50

The necklace costs \$85.
 The scarf costs \$51.
 The notebook costs \$8.50.
 The necklace costs \$76.50 more than the notebook.

Solution B



184.00
 $- 39.50$
 144.50



$17\text{ units} = \$144.50$
 $1\text{ unit} = \$144.50 \div 17$
 $1\text{ unit} = \$8.50$

Notebook costs \$8.50.
 The scarf costs $\$8.50 \times 6 = \51.00 .
 The necklace costs $\$8.50 \times 10 = \85.00 or
 $\$51.00 \div 3 = \17.00 $\$17.00 \times 5 = \85.00
 $\$85 + \$51 + \$8.50 = \144.50

144.50
 $- 8.50$
 76.50

The necklace is \$76.50 more than the notebook.

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