THE BARTON SERIES

THIS MUST BE BARTON

BY

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(Ages 8 and over)

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The Bouquet

One evening on his way home from school, Barton passed by the village flower shop. Barton sometimes changed his route from school to home. The shop was called **Greenways Flower Shop** and the owner was a close friend of Barton's mother. Acting on impulse, Barton felt like buying a rose for Mom and stepped into the shop to purchase one. He had seen a large bunch of red roses on display in the showcase. The roses were quite beautiful and they were clearly visible from the sidewalk on which Barton was walking. The roses were also affordably priced at $6 each. Barton paid his respects to both the owner and her assistant and stated his wish.

The owner of the flower shop was happy to see Barton. She had known him since he was a baby and had found him to be maturing into a fine, young gentleman. Barton was indeed a well-liked boy.

As the owner fetched the rose of Barton's choice, she asked Barton if he would help her to determine the selling prices of some bouquets which she wished to make. She went on to explain to the young boy exactly what she wanted him to calculate.

"Some people like tulips alone, others like lilies alone, and some like a mixture of both these flowers, in various proportions," she said to Barton.

She had paid $10 each for a tulip and $8 each for a lily. She wished to attain a profit of 50% on each tulip and 75% on each lily.

The owner further explained that all bouquets must be made up of exactly 12 flowers and she wanted the various prices of each possible combination of the two flowers in the finished bouquets.

Barton immediately agreed for he was always very anxious to show off his skills in mathematics. The owner sat him down and gave him a pencil and a sheet of paper. Barton began to work at once on what he considered being a rather simple project.

This is what Barton wrote:

Cost of 1 tulip =$10

Required profit is 50 %

Profit = $\frac{50}{100} \times \$10$

      = $5

Selling price of 1 tulip =$10 + $5
= $15

Cost of 1 lily =$8

Required profit is 75 %

Profit = $\frac{75}{100} \times \$8$

      = $6

Selling price of 1 lily =$8 + $6 =
$14

If the bouquet consists of 12 tulips only-

12 tulips will be sold for: $15 x 12 = $180

If the bouquet consists of 11 tulips and 1 lily-

11 tulips and 1 lily will be sold for: ($15 x 11) + ($ 14 x 1)

$$= \$ 165 + \$ 14$$

$$= \$ 179$$

If the bouquet consists of 10 tulips and 2 lilies-
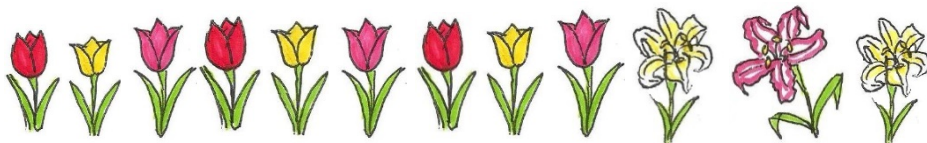
10 tulips and 2 lilies will be sold for: ($15 x 10) + ($14 x 2)

$$= \$150 + \$28$$

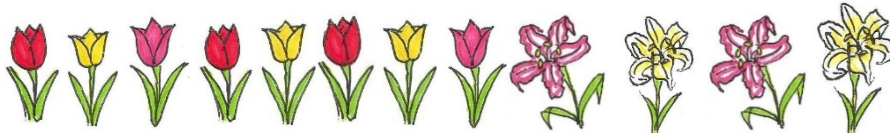$$= \$ 178$$

If the bouquet consists of 9 tulips and 3 lilies-

9 tulips and 3 lilies will be sold for: ($15 x 9) + ($14 x 3)

$$= \$ 135 + \$ 42$$

$$= \$ 177$$

If the bouquet consists of 8 tulips and 4 lilies-

8 tulips and 4 lilies will be sold for: ($15 x 8) + ($14 x 4)

$$= \$120 + \$56$$

$$= \$176$$

If the bouquet consists of 7 tulips and 5 lilies-

7 tulips and 5 lilies will be sold for: ($15 x 7) + ($14 x 5)

$$= \$105 + \$70$$

$$= \$175$$

If the bouquet consists of 6 tulips and 6 lilies-

6 tulips and 6 lilies will be sold for: ($15 x 6) + ($14 x 6)

$$= \$90 + \$84$$

$$= \$174$$

If the bouquet consists of 5 tulips and 7 lilies-

5 tulips and 7 lilies will be sold for: ($15 x 5) + ($14 x 7)

= $75 + $98

= $ 173

If the bouquet consists of 4 tulips and 8 lilies-

4 tulips and 8 lilies will be sold for: ($15 x 4) + ($14 x 8)

= $60 + $112

= $ 172

If the bouquet consists of 3 tulips and 9 lilies-

3 tulips and 9 lilies will be sold for: ($15 x 3) + ($14 x 9)

= $45 + $126

= $ 171

If the bouquet consists of 2 tulips and 10 lilies-

2 tulips and 10 lilies will be sold for: ($15 x 2) + ($14 x 10)

$$= \$30 + \$140$$

$$= \$ 170$$

If the bouquet consists of 1 tulip and 11 lilies-

1 tulip and 10 lilies will be sold for: ($15 x 1) + ($14 x 11)

$$= \$15 + \$154$$

$$= \$ 169$$

If the bouquet consists of 12 lilies only-

12 lilies will be sold for: $14 x 12 = $168

Barton presented the figures to the owner and mentioned that the bouquet with no tulips and twelve lilies would have the lowest selling price.

The owner of the flower shop was rather impressed with Barton's skill in mathematics, his presentation, and his good reasoning ability.

As she thanked him, the owner offered Barton a 75% discount on the price of his chosen rose. Barton courteously refused, but the lady was insistent.

Eventually, the grateful Barton reached into his pocket and paid the sum of only $1.50, thereby saving $4.50 off the marked price.

Barton left **Greenways Flower Shop** and happily hurried home, bearing the beautiful and fragrant rose for his loving, deserving, and caring Mom.