**Solving Problems using the Distributive Property**

Class description of the **Distributive Property**:

1. You and three friends go to the local fair. You each buy a $3 food ticket and a stamp for unlimited rides. If the total cost for the four of you is $32, how much does the stamp for unlimited rides cost?
2. What is the unknown cost in the problem?
3. What is the known cost in the problem?
4. Write an expression showing the cost for one person.
5. Write an expression showing the total cost for everyone.
6. The total cost equals $32. Write an equation that models this situation.
7. Now we want to solve this equation to find the cost of the stamp. If you followed the steps correctly, your equation should have a pair or parentheses in it. Up until now, we have not solved any equations with parentheses. How we are going to get rid of the parentheses? Explain below.
8. Use the distributive property to eliminate the parentheses in the equation.
9. Now solve the equation. Show your work and circle your answer.
10. Mr. Matthews organized a field trip to Lake Compounce for his ninth grade students who had perfect attendance. He bought the admission ticket for each student, plus a gift for each student. The gifts for the girls cost $5 each and the gifts for the boys cost $4 each. 12 boys and 15 girls attended the field trip. The total cost of the tickets and gifts was $798. After Mr. Matthews spends the money, the Principal demands to know much each admission ticket cost. Mr. Matthews has never been good at math, so he needs your help. How much did each ticket cost?
11. Write an expression modeling the cost for just the girls.
12. Write an expression modeling the cost for just the boys.
13. Using the two expressions, write an expression modeling the total cost.
14. Use the distributive property to simplify the expression.
15. Write an equation that you can use to find the ticket cost. Solve the equation and check your solution.

1. Your bank charges a monthly fee of $2.25 for your checking account and an additional $1.25 for each transaction you make with your debit card. Your May bill is for $13.50. How many transactions did you make with your debit card in May?
2. Assign a variable for the number of transactions that you made in May.
3. Write an equation to find the number of transactions you made in May.
4. Solve the equation. Does your answer seem reasonable? Why or why not?
5. Because you always pay your monthly bill on time, the bank says that in June, the first two transactions that you make with your debit card will not be charged a $1.25 fee.
6. Let *x* equal the number of transactions you made in June. Write an expression for the number of transactions that you will be charged for in June.
7. Now write an expression for the cost of the transactions in June.
8. Suppose that your June bill is $13.50. Write an equation to find the number of transactions you made in June.
9. Solve the equation. Does your answer seem reasonable? Why or why not?
10. Something went wrong in July! Your monthly fee increased to $2.45 and you are again being charged for each transaction. Your July bill is $8.95, and you know that you only made five transactions. What were you charged for each transaction? Write an equation and solve.
11. The bank wants to keep your business, so they change their policy. In August, your first two transactions are not charged a fee. You suspect that the transaction fee changed. Your monthly fee is $2.45, and your August bill is $11.65. You know that you made 10 transactions. What were you charged for each transaction? Write an equation and solve.