Math problems essay

Science, Mathematics

The properties of real numbers is a fundamental concept of basic algebra. Any given individual should be aware of these concepts as we may face them in our everyday lives without even noticing. When you actually are doing simple math operations while buying groceries or calculating your monthly expenses, you are dealing with real numbers, and, therefore, you should be aware of their properties in order not to make a mistake in your calculations. The distributive law, simplification procedures and operations with removing parentheses are important to know anytime you are facing a problem which involves calculations. The knowledge of these properties might help to simplify the problem as much as possible, and therefore produce a desirable result.

Now let's apply the properties of real numbers on given numerical examples:

- 2a(a – 5) + 4(a – 5) Given Expression;

2a*a – 5*2a+4*a – 5*4 Use distributive property to remove parentheses;

2*a2 – 10a + 4*a – 20 Arrange like terms together using cumulative property;

2*a2 – 16*a – 20 Add like terms. Now the expression is fully

simplified.

- 2w – 3 + 3(w – 4) – 5(w – 6) Given Expression;

2w – 3 + 3w -4*3 – 5w +5*6 Use distributive property to remove parentheses;

2w + 3w – 5w -3 – 4*3 +5*6 Arrange like terms;

15 Add like terms. The variables are cancelled out.

The expression is fully simplified.

- 0. 05(0. 3m + 35n) – 0. 8(-0. 09n – 22m) Given Expression;

0. 05*0. 3m + 0. 05*35n – 0. 8*(-0. 09n) – 0. 8*(-22m) Use distributive property to

remove parentheses;

0. 015m + 1. 75n + 0. 072n + 17. 6m Multiply all the coefficients;

0. 015m + 17. 6m + 1. 75n + 0. 072n Arrange like terms together;

1. 765m + 1. 822n Add up the like terms. The

expression is fully simplified.

As we may see from the exercises above, the knowledge of properties of real numbers provides us with valuable instruments to simplify mathematical expressions. Instead of having a long equation with lots of coefficients, we may simplify it to its easiest form. Distributive property helps us to remove the parentheses and multiply the polynomial inside the parentheses by the multiplier outside the parentheses. The second step of our solution, is to arrange the like terms after removing the parentheses. Thirdly, we multiply the coefficients of the variables and add up the like terms altogether. As a result, our expression becomes simplified.

Given exercise helps us to understand the properties of real numbers, which are very important, as they surround us in our everyday lives. These basic concepts may be applied in different real world situations, when it is necessary to perform a computation. For instance, if you want to calculate the amount of income tax you have to pay from different sources of income, you may use distributive property of real numbers to calculate the necessary amount. Another example would be adding like terms to calculate the

expense in the grocery store. In this context like terms will be the identical items in your cheque. All of these items should be multiplied by price for each item (multiplying coefficients). In the end you may construct an expression which describes your spending in the grocery store, and you may simplify it using properties of real numbers to make it concise and clear. These practical examples provide evidence that properties of real numbers is a vital concept not only in Math but also in our everyday lives.

References

Glencoe, M. (1998). Algebra I. Practice Workbook. McGraw-Hill