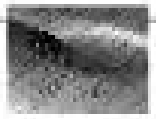
The Product-Quotient Connection

Cross-Curricular Focus: Mathematics



Multiplication and division are related to each other. They are opposites. Multiplication is able to reverse, or "undo," division. Division is able to reverse, or "undo," multiplication. Mathematicians have a special word for two math actions that undo each other. They call them *inverse operations*. Multiplication and division are inverse operations. Addition and subtraction are inverse operations.

Because they are opposites, you can use division to "undo" a multiplication problem. You can see if your **product** is correct. A product is the answer to a multiplication problem. You can use multiplication to "undo" a division problem. You can see if your **quotient** is correct. A quotient is the answer to a division problem. When you check to make sure your answer is correct, you justify your answer. Justify means prove. If you do this with every problem, you can be sure that your answer is correct.

If you understand how inverse operations work, you will be more successful with higher math. You will be able to balance equations in algebra. You will be able to do problems that are much harder than anything you think you can do now. Each new skill you learn in math now is a tool. You are adding tools to the toolbox of your mind. All those tools will help you be successful as your education continues.

Name: _____

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

1) How are multiplication and division related to each other?

_____

_____

2) What is a benefit of checking your answer after you have solved a math problem?

_____

_____

3) How are the things that you learn in math now going to help you later?

_____

_____

4) What is a product?

_____

_____

5) What is a quotient?

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