Addition and Subtraction Rules

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| **Addition Properties:** The zero property states that zero added to any number is the same as the original number. The commutative (or order) property states that the order of addends does not matter: 3 + 4 = 4 + 3. **Subtraction Rules:** There are two rules for using zero in subtraction. Zero subtracted from any number is the original number (this is the counterpart of the zero property of addition), and any number subtracted from itself equals zero. **Counting on and counting back:** For facts such as 9+1 or 7+2, you can count on from the greater number. Similarly, for facts such as 6 – 1, you can count back. (Counting back is often harder to master than counting on.) **Doubles and near doubles:** If you have two groups of 8 objects, you have double 8, or 16, objects. Doubles facts are usually easy to remember, and can be used to learn other facts. Since 8 + 8 = 16, and 9 is one more than 8, 8 + 9 will be one more than 16, or 17. **Using 10 to add 9:** The place-value system makes adding 10 to a number easy – just increase the digit in the tens place by 1. You can use this to help add 9 to a number. Just add 10 to the number, then subtract 1. **Fact families:** A fact family is a group of related facts using the same numbers. One example would be 4 + 3 = 7, 3 + 4 = 7, 7 – 3 = 4, and 7 – 4 = 3. Fact families are a very powerful tool for mastering facts; once you know one fact in a family, you can work out the other facts in the same family. Fact families are also useful for solving problems with missing addends, such as 4 + \_\_ = 7. The fact table below shows the strategies that can be used with addition facts.  |   |   |
| http://www.eduplace.com/math/mathsteps/artwork/1_addsub_what1.gif |