



# Math Study Strategies

## Amount, Base, Rate

The relationship between base, amount, and rate can be expressed in the following 3 ways:

$$B = A \div R$$

$$A = R \times B$$

$$R = A \div B$$

In this relationship, the base (**B**) represents the whole, the amount (**A**) represents the part of the whole, and the rate (**R**) represents the percentage of the whole.

If the rate (**R**) is **more than** 100%, then the amount (**A**), is larger than the base (**B**).

If the rate (**R**) is **less than** 100%, then the amount (**A**) is less than the base (**B**).

To find out one of the values in this relationship when the other 2 are given, you must identify which value is the base, which value is the rate, and which value is the amount. **Clue words help in this identification** and are identified in the samples below.

“of what” are clue words for **B**

Example:    16% of what number is 56?

“%” is the clue word for **R**                      “is” is the clue word for **A**

Therefore:

$$B = A \div R$$

$$B = 56 \div 0.16 = 350 \quad \text{Note: } 16\% \text{ is the same as } 0.16$$

What is 16% of 56?

$$A = R \times B$$

$$A = 0.16 \times 350 = 56$$

What % of 350 is 56?

$$R = A \div B$$

$$R = 56 \div 350 = 0.16 = 16\%$$