

Percent relationships can be expressed in word form, in number form and using visual models.

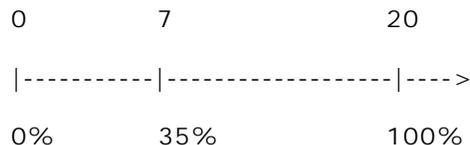
Percent Statement

Percent Proportion

Number Line

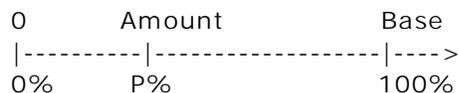
7 is 35% of 20

$$\frac{7}{20} = \frac{35}{100}$$



Amount is P% of the Base

$$\frac{\text{Amount}}{\text{Base}} = \frac{\text{Part}}{100}$$



The Base B is the original quantity.
 The Amount A is the amount compared to the base quantity.
 The Part P is the part out of 100.

In the double number line model:

The labels above the line indicate the numerical quantities in the statement.

The line segment from 0 to 20 represents Base B = 20.
 The line segment from 0 to 7 represents Amount A = 7.

The labels below the line indicate the percent values.

The Base is 100%. The Part P being compared to the base is 35%.

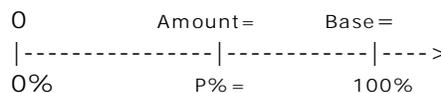
1. Answer the questions about the following percent statement.

15 is 60% of 25

a. Write the relationship in percent proportion form.

$$\frac{\text{Amount}}{\text{Base}} = \frac{\text{Part}}{100}$$

b. Show each quantity in the proportion relationship on the double number line model.



The percent proportion is used to compute an unknown quantity in a percent relationship.

Example: 23 is what percent of 28?

The words "what percent" indicate the unknown quantity.
 The variable expression N% can replace the words "what percent".

The percent question can be written as a percent statement and percent proportion.

Percent Statement

23 is N% of 28

Amt is P% of Base

Percent Proportion

$$\frac{23}{28} = \frac{N}{100}$$

Number Line



2. Solve the proportion for N.
 SHOW ALL WORK!

3. 27 is 9% of what number?

a. What words indicate the unknown quantity?

b. Represent the unknown quantity with a variable.
 Write the problem question as a percent statement.

c. Write the percent proportion.

d. Solve the proportion. SHOW ALL WORK!

4. Solve. Show the percent statement, percent proportion and all work!!

a. 16 is what percent of 12?

b. _____ is 90% of 50?