

STUDY SHEET

DEFINITIONS

Equation:

An equation uses an equal sign. The equation sign means that both the left side and the right side of the equation have the same value.

Variable:

A letter that replaces a number when we don't know its value. $X + 6 = 17$

Constant:

A number(s) in an equation.

$$X + 6 = 17$$

ALGEBRA RULES

1st Algebra rule:

Remove constants from the variable side of the equation by performing the opposite math operation of the constant.

2nd Algebra rule:

Whatever you do to one side of the equation you do to the other side.



Remember: Keep the scale balanced!

EXAMPLES

1st Rule: Remove constant by doing the opposite math operation

$$\begin{array}{r} R + 15 = 25 \\ \underline{-15} \\ 0 \end{array}$$

2nd Rule: Do the same thing to the other side

$$\begin{array}{r} R + 15 = 25 \\ \underline{-15} \quad \underline{-15} \\ 0 \quad 10 \end{array}$$

$$R = 10$$

1st Rule: Remove constant by doing the opposite math operation

$$\begin{array}{r} X - 33 = 20 \\ \underline{+33} \\ 0 \end{array}$$

2nd Rule: Do the same thing to the other side

$$\begin{array}{r} X - 33 = 20 \\ \underline{+33} \quad \underline{+33} \\ 0 \quad 53 \end{array}$$

$$X = 53$$

1st Rule: Remove constant by doing the opposite math operation

$$\begin{array}{r} \frac{10}{10} \cdot R = 20 \\ \underline{10} \end{array}$$

2nd Rule: Do the same thing to the other side

$$\begin{array}{r} \frac{10}{10} \cdot R = \frac{20}{10} \\ \underline{10} \quad \underline{10} \end{array}$$

$$R = 2$$

1st Rule: Remove constant by doing the opposite math operation

$$\begin{array}{r} \frac{P}{5} \cdot 5 = 7 \\ \underline{5} \end{array}$$

2nd Rule: Do the same thing to the other side

$$\begin{array}{r} \frac{P}{5} \cdot 5 = 7 \cdot 5 \\ \underline{5} \end{array}$$

$$P = 35$$