

FAST DRAW for Basic Math

To help me solve word problems.

Find what you are solving for.

- Look for the question mark.
- Underline the information that tells you what you are solving for.
- Look for keywords.
- Underline keywords twice.

Ask yourself what is the important information

- Read each sentence.
- Find number phrases and circle them.

Set up the equation.

- Write the equation with the numbers in the correct order.

Tie down the sign.

- Reread the underlined sentence.
 - Check highlighted key words and operation signs.
 - Say aloud the operation and what the operation means (e.g. “addition means I need to combine the numbers.”)
 - Solve the problem if you can, or draw pictures to solve it using DRAW.
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Discover the sign.

- Scan the problem and find the operation sign (+, -, ×, ÷)
- Circle, and say name of operation sign.
- Say what the sign means.

Read the problem.

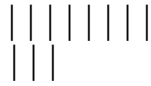
- Read the whole problem.
- Say the problem aloud as you read.

Answer, or draw tallies and/or circles and check your answer. (*see draw examples for each operation*).

- Answer the problem if you know how to it.
- If you don't know how to solve the problem then draw pictures to solve it.
 - For example:

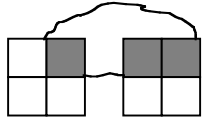
Addition

Whole Numbers

$$\begin{array}{r} 8 \\ +3 \\ \hline 11 \end{array}$$


The diagram shows eight vertical tally marks for the number 8 and three vertical tally marks for the number 3, positioned to the right of the numbers in the addition problem.

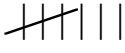
Fractions

$$\begin{array}{r} 1/4 \\ + 2/4 \\ \hline 3/4 \end{array}$$


The diagram shows two fraction bars, each divided into four equal squares. The first bar has one square shaded, representing 1/4. The second bar has two squares shaded, representing 2/4. A bracket above both bars indicates they are being added together.

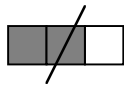
Subtraction

Whole Numbers

$$\begin{array}{r} 6 \\ -3 \\ \hline 3 \end{array}$$


The diagram shows six vertical tally marks for the number 6, with the first three crossed out with diagonal lines, representing the subtraction of 3. Three vertical tally marks remain for the number 3.

Fractions

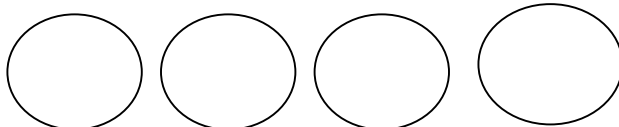
$$\begin{array}{r} 2/3 \\ -1/3 \\ \hline 1/3 \end{array}$$


The diagram shows a single fraction bar divided into three equal squares. The first two squares are shaded, representing 2/3. A diagonal line is drawn through the bar, and the first square is unshaded, representing the subtraction of 1/3.

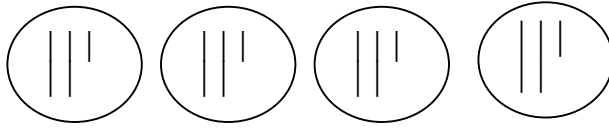
Multiplication

$4 \times 5 = \underline{\quad}$ – “four groups of five equals...”

1. Draw circles for the number of groups.



2 Draw tallies or dots to represent how many are in each group.



3. Add the tallies in all circles and write the total.

$$4 \times 5 = 20 - \text{“four groups of five equals twenty”}$$

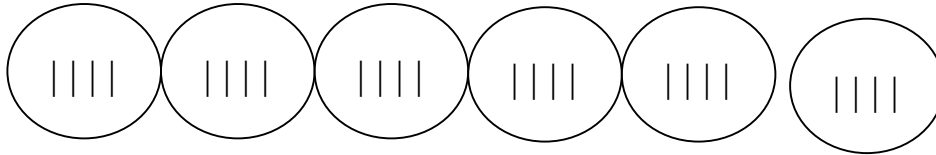
Division

$$24 \div 4 = \underline{\quad}$$

1. Draw tallies or dots to represent dividend (“24”).



2. Circles tallies dots by the value of the divisor (“4”).



3. Count number of circles (this is your answer - the quotient (“6”).

$$24 \div 4 = 6$$

Write the answer.

- Write down the answer to the problem

This strategy is based on a strategy presented in Mercer, C., & Mercer, A. (1998). Teaching students with learning disabilities (5th ed.). Columbus, O: Merrill.

Learning Toolbox. Steppingstone Technology Grant. James Madison University, MSC 1903, Harrisonburg, VA 22807.

