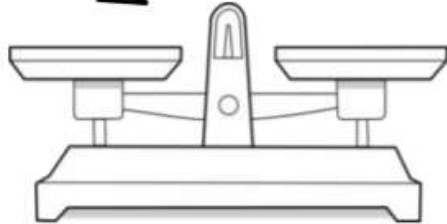


one step equations

GOAL OF SOLVING EQUATIONS:



STEPS:

1. DO THE OPPOSITE OPERATION OF WHAT'S ON THE SAME SIDE AS THE VARIABLE TO BOTH SIDES
2. CHECK YOUR SOLUTION

REMEMBER
ADD & SUBTRACT
ARE INVERSE
OPERATIONS.
MULTIPLY &
DIVIDE ARE
INVERSE
OPERATIONS.

Try it!

$$-2x = 22$$

$$x - 9 = -3$$

Always remember to check your answer by substituting it in for x. Both sides of the equation should be equal!

In an equation chain, you use the solution of one equation to help you find the solution of the next equation in the chain. The last equation in the chain is used to check that you have solved the entire chain correctly.

Complete each equation chain:

1) $5 + a = 12$ so $a = \underline{\quad}$
 $ab = 14$ so $b = \underline{\quad}$
 $16 \div b = c$ so $c = \underline{\quad}$
 $14 - d = c$ so $d = \underline{\quad}$
 $e \div d = 3$ so $e = \underline{\quad}$
 $a + e = 25$ **check**

2) $9f = 36$ so $f = \underline{\quad}$
 $g = 13 - f$ so $g = \underline{\quad}$
 $63 \div g = h$ so $h = \underline{\quad}$
 $h + i = 18$ so $i = \underline{\quad}$
 $j - i = 9$ so $j = \underline{\quad}$
 $j \div f = 5$ **Check**

3) $m \div 4 = 8$ so $m = \underline{\quad}$
 $m - n = 12$ so $n = \underline{\quad}$
 $np = 100$ so $p = \underline{\quad}$
 $q = 40 + p$ so $q = \underline{\quad}$
 $p + q - 10 = r$ so $r = \underline{\quad}$
 $r - m = 8$ **check**

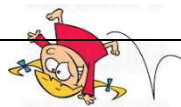
4) $18 = v - 12$ so $v = \underline{\quad}$
 $v \div w = 3$ so $w = \underline{\quad}$
 $80 = wx$ so $x = \underline{\quad}$
 $w + x = 2y$ so $y = \underline{\quad}$
 $xy - z = 40$ so $z = \underline{\quad}$
 $z - v = 2$ **Check**

Challenge: Create your own equation chain using these numbers for the variables: $a = 10$, $b = 6$, $c = 18$ and $d = 3$

Equations Error Analysis

Sally is a silly little girl who makes mistakes! In Column #1, analyze her work and circle her mistake. In Column #2, explain what she did wrong. In Column #3, show how Silly Sally should work out the problem correctly. Show ALL work!

Silly Sally's Work (Circle her mistake):	What did Silly Sally do wrong?	Show Silly Sally how it's done! (Show ALL steps!)
$\begin{array}{r} x + 5 = 28 \\ + 5 \quad + 5 \\ \hline x \quad = 33 \end{array}$		
$\begin{array}{r} 12a = 108 \\ 12 \quad 12 \\ \hline a = 8 \end{array}$		
$\begin{array}{r} w - 42 = 18 \\ + 18 \quad + 18 \\ \hline w \quad = 36 \end{array}$		
$\begin{array}{r} \frac{y}{15} = 3 \\ \div 15 \quad \div 15 \\ \hline y = 5 \end{array}$		
$\begin{array}{r} x + 23.45 = 32 \\ - 23.45 \quad - 23.45 \\ \hline x = 9.45 \end{array}$		
$\begin{array}{r} 4\frac{1}{2}b = 36 \\ \cdot 4\frac{1}{2} \quad \cdot 4\frac{1}{2} \\ \hline b = 162 \end{array}$		



Solving One-Step Equations Problems

You can solve a word problem using one-step equations.

- 1) Figure out **what you know** and **what you want to know**. What you want to know will be represented by a **variable**.
- 2) Set up an **equation** to solve for the unknown (variable).
- 3) Use **inverse operations** to solve.
- 4) Don't forget to **label** your solution and write it as statement.

Example:

Edgar jogs for 20 minutes. He stretched then jogs some more. Altogether, he jogs for 35 minutes. How far does he jog after he stretches?

What do you know? _____

What do you want to know? _____

What does your variable represent? _____

What operation is used in the equation? _____

What inverse operation will you use to solve? _____

Write the one-step equation to solve. _____

Solution: _____

Solution as a statement: _____