



Concept: Solving One-Step Equations

Name:

COMPUTER COMPONENT

Instructions: Select the computer program *Understanding Equations* (Neufeld)
Follow the instructions to the Main Menu.
Select *Solving One-Step Equations* from the Main Menu.



Work through all sections of this topic **in order**:

- *Our Problem*
- *Concepts – Examples with Tiles*
- *Concepts – Examples without tiles*
- *Practice Questions*

Additional Required Materials: *Pencil Crayons (red and blue)*







As you work through the computer exercises, make your notes in the **NOTES** section of this page.

When you reach the end of the section *Practice Questions* on the computer, move on to the **OFF COMPUTER EXERCISES** below.

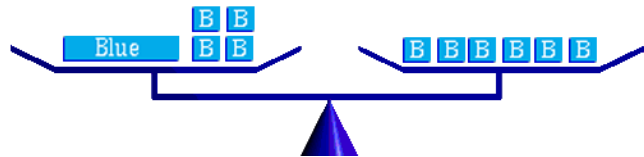
NOTES:

Remember:

Tile	Represents
 Blue Tile	
 Red Tile	
 + 	

Solve the following examples:

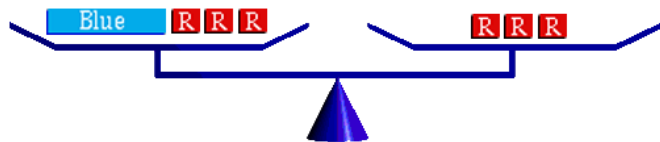
1. $x + 4 = 6$
 $x =$ _____



Draw the appropriate number of *red* tiles (-1) over the *blue* tiles ($+1$).

Remember to keep the balance balanced.

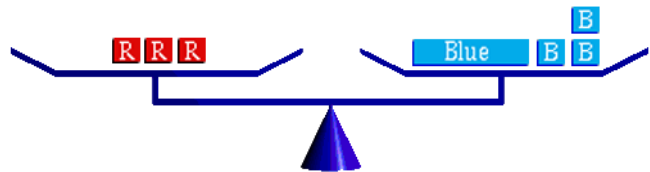
2. $b - 3 = -3$
 $b =$ _____



Draw the appropriate number of *blue* tiles ($+1$) over the *red* tiles (-1).

Remember to keep the balance balanced.

3. $-3 = m + 3$
 _____ = m

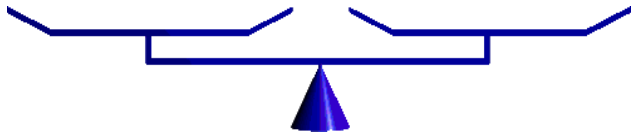
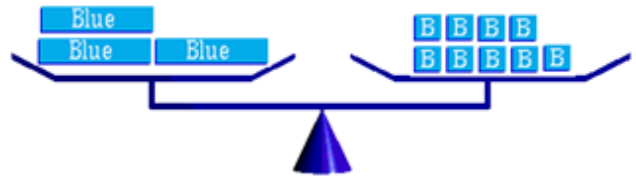


Draw the appropriate number of *red* tiles (-1) over the *blue* tiles ($+1$).

Remember to keep the balance balanced.

4. $3x = 9$

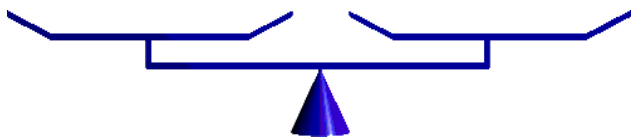
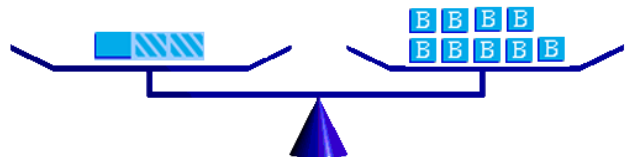
$x =$ _____



*Isolate the x tile.
Rearrange each side into 3 equal groups
Remember to keep the balance balanced.*

5. $\frac{1}{3}x = 9$

$x =$ _____



*Isolate the x tile.
Triple the contents of each balance.
Remember to keep the balance balanced.*

Without Tiles

Fill in the blanks

Step 1: Rewrite the _____

Step 2: _____ the _____

(Hint: Think of balancing the balance)

➤ Perform the _____ operation on _____
_____ of the equation.

➤ Determine which operation; (____), (____), (____), or (____)
should be applied to _____ sides.

Step 3: _____

Step 4: _____

Example:Solve for x (fill in the blanks)

$$x + 6 = 7 \quad \text{Step 1}$$

$$x + 6 \underline{\quad} = 7 \underline{\quad} \quad \text{Step 2}$$

$$x = \underline{\quad} \quad \text{Step 3}$$

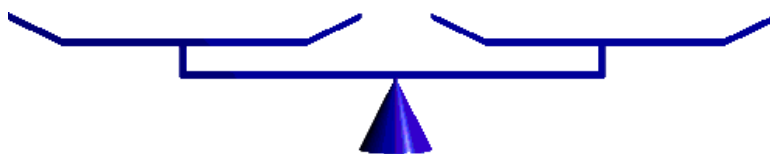
Checking

$\text{Left Side} = x + 6$ $= \underline{\quad} + 6$ $= \underline{\quad}$	Step 4
$\text{Right Side} = \underline{\quad}$	
<p>L.S. = R.S. Therefore the solution $x = \underline{\quad}$ is correct</p>	

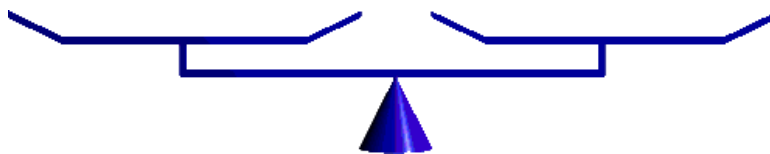
OFF COMPUTER EXERCISES

1. Given the equation $x - 4 = 6$.

(a) Represent the equation on the balance by using tiles.

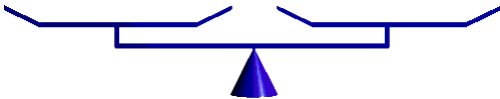


(b) Isolate the x tile by manipulating the tiles. (*Manipulate the tiles by adding an identical number of red or blue tile to each side*)



(c) Write the resulting equation and simplify it.

2. Solve each equation $7 = x - 5$ in two ways.

With the Balance	Without the Balance
	

(a) Which method did you prefer? Why?

3. Solve each equation. *Be sure to write out all of your steps and to check each answer.*

(a) $x - 5 = 7$

(b) $y + 3 = 8$

(c) $a + 7 = 3$

(d) $x + 6 = -4$

(e) $5y = -25$

(f) $7b = 35$

(g) $4n = -12$

(h) $10x = 100$



(i) $0.9x = 9$

(j) $7p - 1 = 34$