ALGEBLOCKS

Using Zero Pairs to Add a Positive Number

Use what you know about modeling integers and zero pairs to add a positive number.

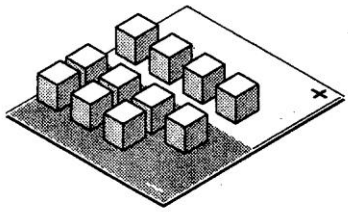
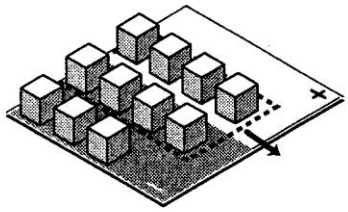
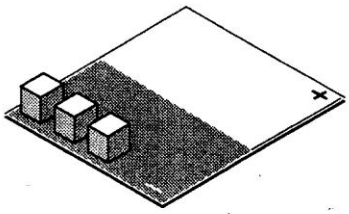
Example: Add $^{-}7 + 4$.

Step 1.
Model both integers on the mat.

Step 2.
Make zero pairs and take them off the mat.

Step 3.
Read the mat.
$^{-}3$

Step 4.
Record.
$^{-}7 + 4 = {}^{-}3$

Use Algeblocks to add.

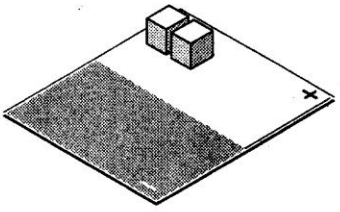
1. $^{-}5 + 8 =$ _____
2. $^{-}9 + 2 =$ _____
3. $^{-}2+6 =$ _____
4. $^{-}3 + 9 =$ _____

Using Opposites to Subtract Integers

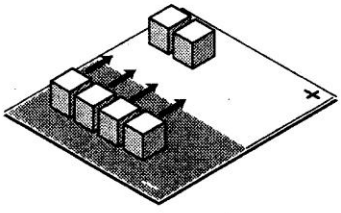
Use what you know about opposites to subtract both positive and negative integers. To subtract, add the opposite of the number being subtracted.

Example: Subtract $2 - (^{-}4)$

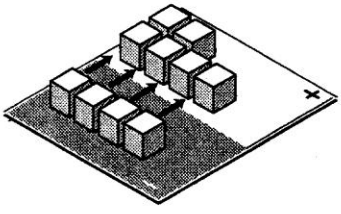
Step 1.
Put 2 unit blocks on the positive side of the mat.



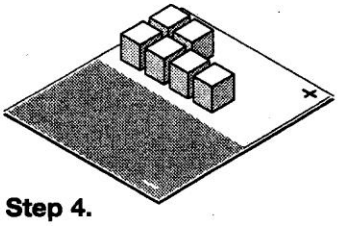
Step 2a.
Put 4 unit blocks on the negative side of the mat.



Step 2b.
Move the negative blocks to the positive side and add.



Step 3.
Read the mat.
6



Step 4.
Record.
$2 - (^{-}4) = 6$

Try It

Use Algeblocks and the Basic Mat to subtract. Use the strategy of adding the opposite.

1. $^{-}4 - (^{-}2) =$ _____
2. $3 - (^{-}1) =$ _____
3. $^{-}7 - (^{-}2) =$ _____
4. $7 - (^{-}9) =$ _____

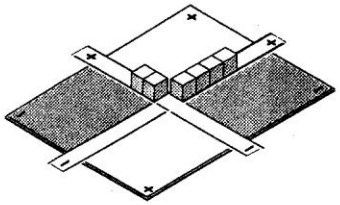
Multiplying Positive Numbers on the Quadrant Mat

Positive factors go on the top and right parts of the Factor Track.

Example: Use the Factor Track and Quadrant Mat. Model 2 × 4.

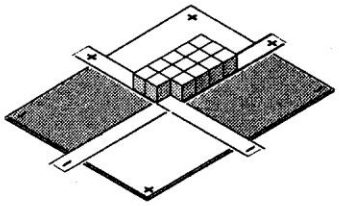
Step 1.

Model the factors on the Factor Track. The plus signs show you where to put the two factors.



Step 2.

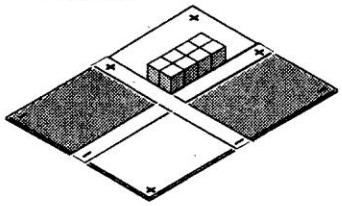
Solve. Build the product rectangle on the mat. Remove the Factor Track when you are finished.



Step 3.

Read the mat. Notice the plus sign in this part of the mat. This means the product is positive.

Product: 8



Step 4.

Record.

2 × 4 = 8

Try It

1. 3 x 2 = _____

2. 1 x 3 =_____

3. –1 x –3 =_____

4. 3 x –2 =_____

Practice

Model the factors. Then complete the sums.

1. 2 × (6 + 1) = (2 × ___) + (2 × ___)

2. 6 × (2 + 4) = (6 × ___) + (6 × ___)

3. –5 × (1 + 3) = _____ + _____

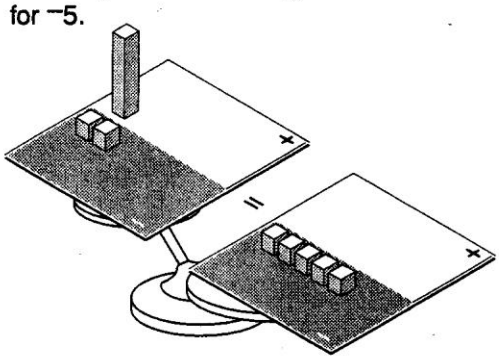
Using Addition to Solve Equations

Your Algeblocks and the Sentences Mat can help you solve equations. The goal is to get the block for the variable all by itself on one side of the mat.

Example: Solve $y - 2 = -5$

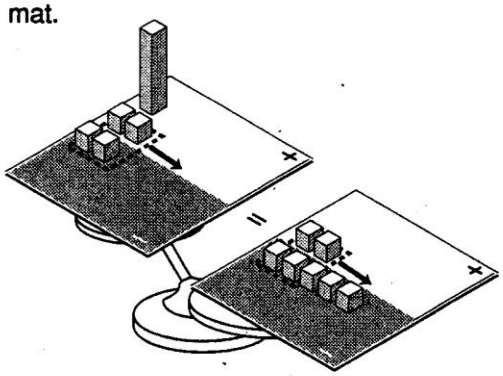
Step 1.

Model the equation. Use the left side of the mat for $y - 2$. Use the right side of the mat for -5.



Step 2.

Solve. Add 2 unit blocks to both sides of the mat. Then take all zero pairs off the mat.



Step 3.

Read the mat.

$y = -3$

Step 4.

Record.

$$y - 2 = -5$$
$$y - 2 + 2 = -5 + 2$$
$$y = -3$$

Practice

Solve each equation. Record your steps to complete the chart.

	Equation	Number Added to Each Side	Number of Zero Pairs Removed	Solution
3.	$y - 3 = 6$			$y =$ _____
4.	$2 = -1 + x$			$x =$ _____
5.	$-5 = y - 4$			$y =$ _____
6.	$x - 4 = 4$			$x =$ _____
7.	$4 = y - 1$			$y =$ _____